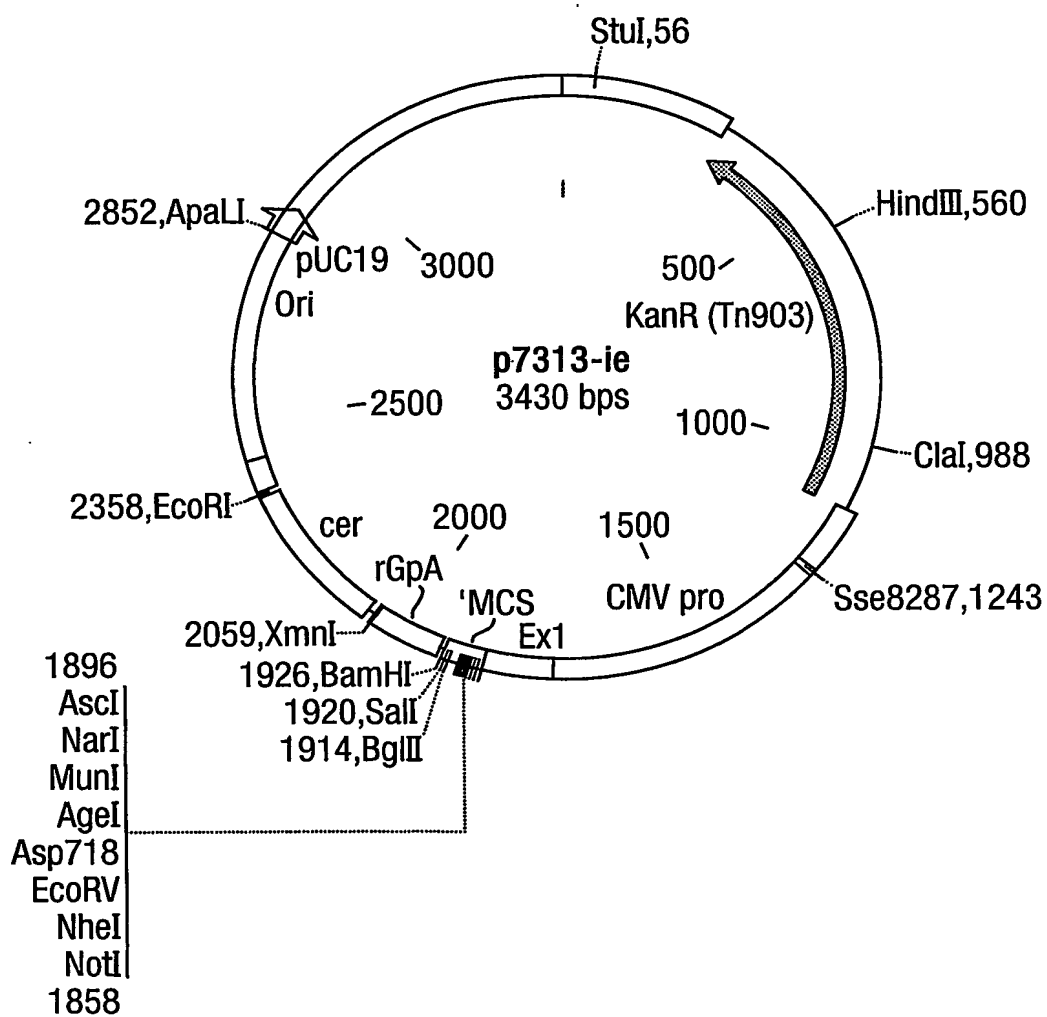


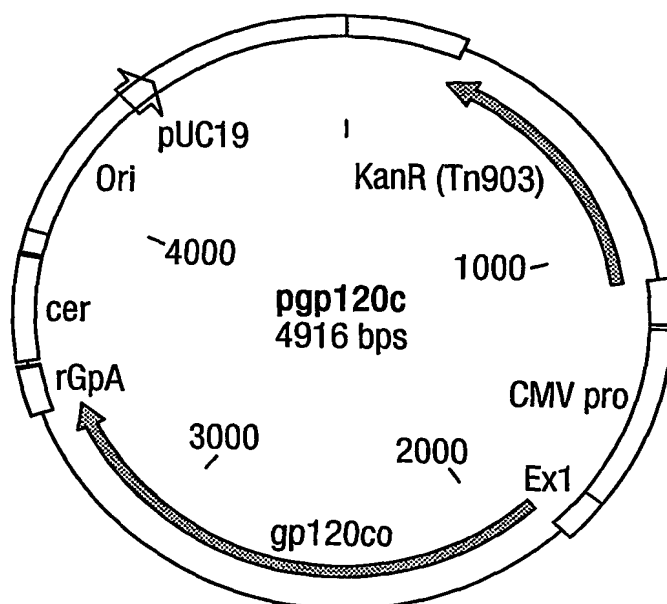
Fig.1.



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Fig.2.

Map of ppg 120c:



The amino acid sequence of the W61D gp120 is below. The signal sequence is underlined and bold, up to the predicted cleavage site between amino acids 29 and 30. This is the sequence removed in dsGP120 (pRix12 etc).

MKVKE TRKNYQHLWRWGTMLLGLMICSAAEQWLWVTVYYGVPVWKEATTTLFCASDAKAYDTEVHNWATH
 ACVPTDPNPQEVVLGNVTEYFNMWKNMVDQMHEDIISLWDQSLKPCVKLTPLCVTLDCDDVNTNSTTTT
 SNGWTGEIRKGEIKNCSFNITTSIRDKVQKEYALFYNLDVVPIDDDNATTKNKTTRNFRLIHCNSSVMTQA
 CPKVSFEPIPIHYCAPAGFAILKCNKTFDGGKGLCTNVSTVQCTHGIRPVVSTQLLNGSLAEEVVIRSD
 NFMDNKTIIIVQLNESVAINCTRPNNNTRKGIHIGPGRFYAARKIIGDIRQAHCNLSRAQWNNNTLKQIVI
 KLREHFGNKTIKFNQSSGGDPEIVRHSFNCGGEFFYCDTTQLENSTWNGTEGNNTEGNTITLPCRKQII
 NMWQEVGKAMYAPPIGGQIRCSSNITGLLLTRDGGTEGNGTENETEIFRPGGGDMRDNRSELYKYKVVKV
 EPLGVAPTRAKRRVQR [SEQ ID NO: 49]

The codon optimised DNA sequence for the W61D gp120 gene is:

ATGAAGGTCAAGGAGACCAGAAAGAACTACCAGCATCTGTGGCGCTGGGGCACCATGCTCCTGGGAATGCT
 GATGATCTGCTCCGCCGCCGAGCAGCTGTGGGTACCGTCTACTACGGCGTGCCTGTGTGGAAGGAGGCCA
 CGACCACCTCTTCTGCGCGAGCGACGCCAAGGCCCTACGACACGGAAGTGCATAACGTGTGGGCGACGCAT
 GCTTGCGTGCCTACGGACCCCAACCCCAAGGAGGTGGTGTGGGAAACGTGACCGAGTACTTCAACATGTG
 GAAGAATAACATGGTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAGTCCCTGAAGCCCTGCG
 TGAAGCTGACGCTCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACC
 AGCAACGGCTGGACCGGAGAGATTCGGAAGGGCGAGATCAAGAACTGCTCCTTCAATATCAGCACTCGAT
 CAGAGACAAGGTGCAGAAGGAATACGCGCTGTTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATG
 CCACCACCAAGAACAAGACGACGCGTAATTTAGACTCATTCACTGCAACAGCAGCGTCATGACGCAGGCC
 TGCCCCAAGGTGTCTTTCGAACCAATCCCAGTCCATTACTGTGCCCTGCCGATTTCGCGATCCTCAAGTG
 TAACAACAAGACCTTCGACGGGAAGGGCCTGTGCACCAACGTGACGACGGTGCAGTGCACCCATGGCATCC

Fig.2 (Cont).

GCCCCGTCGTGAGCACCCAGCTGCTGCTGAACGGGTCCCTGGCTGAGGAGGAGGTGGTGATCCGGTCCGGAC
 AACTTCATGGACAACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGCGATTAACTGTACCCGGCC
 TAACAACAACACCCGTAAGGGCATCCACATCGGGCCTGGACGGGCCTTCTATGCCGCCCCGAAGATCATCG
 GCGACATCCGGCAGGCCCATTGCAACCTCTCCCGCGCCCAGTGGAATAACACCCTGAAGCAGATCGTGATC
 AAGCTGAGAGAGCACTTTGGAAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGGAGACCCCGAGATCGT
 GCGGCACTCCTTCAACTGCGGGGGCGAGTTCTTCTACTGCGATACGACACAGCTCTTCAACTCCACCTGGA
 ACGGCACCGAGGGCAACAACACAGAGGGAACTCCACTATCACCTCCCTTGCCGCATCAAGCAGATCATC
 AACATGTGGCAGGAGGTGGGAAAGGCCATGTATGCCCCCCCCATCGGGGGCCAGATCCGCTGCTCCTCCAA
 CATCACCGGCCTGCTGCTCACCAGAGACGGGGGCACCCGAGGGCAACGGCACGGAGAACGAGACGGAGATCT
 TCAGGCCCCGGCGGCGGCACATGAGGGATAACTGGCGGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTG
 GAGCCGCTCGGCGTGGCCCCCACCCGGGCCAAGCGCCGCGTCTGCAGAGATGA [SEQ ID NO: 50]

Fig.3.

Map of pRix15244:

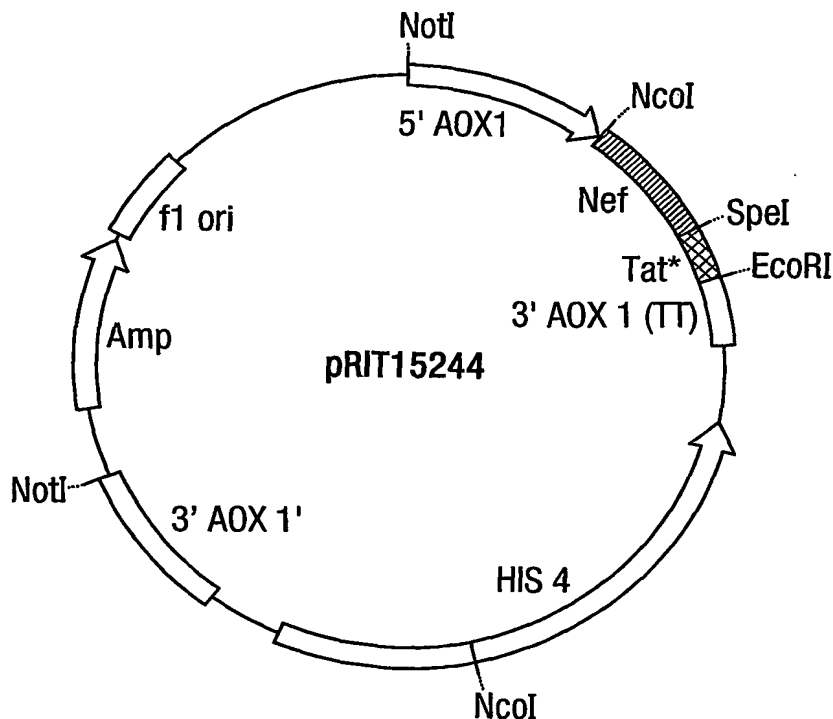
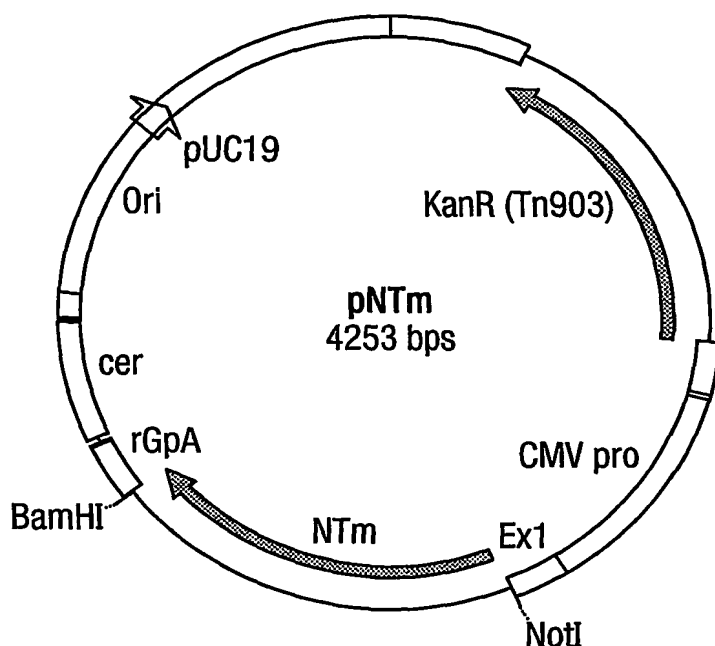


Fig.4.

Plasmid pNTm:



Sequence of insert:

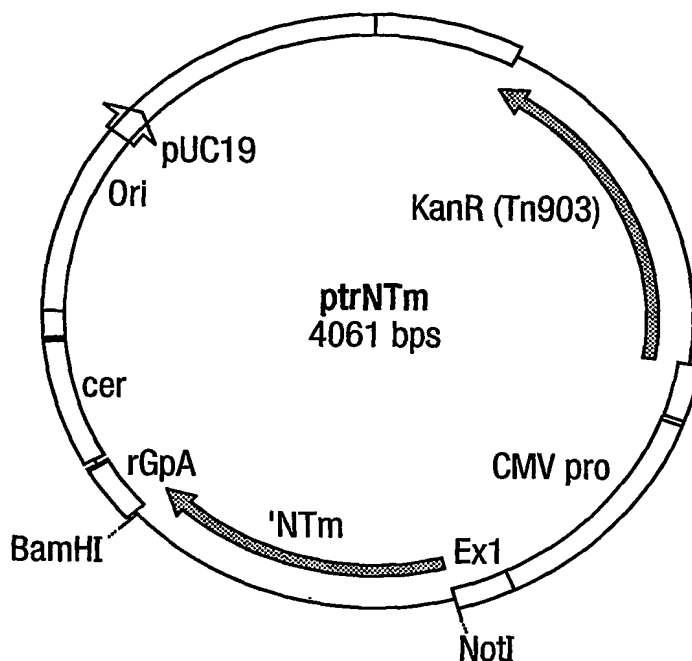
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 GCCAGCAGCAGATGGGGTGGGAGCAGCATCTCGAGACCTGGAAAAACATGGAGCAATCACAAGTAGCAATA
 CAGCAGCTACCAATGCTGCTTGTGCCTGGCTAGAAGCACAAGAGGAGGAGGTGGGTTTCCAGTCACA
 CCTCAGGTACCTTTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTTAAAGAAAAGGG
 GGGACTGGAAGGGCTAATTCACCTCCAACGAAGACAAGATATCCTTGATCTGTGGATCTACCACACACAAG
 GCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGGTCAGATATCCACTGACCTTTGGATGGTGC
 TACAAGCTAGTACCAGTTGAGCCAGATAAGGTAGAAGAGGCCAATAAAGGAGAGAACACCAGCTTGTTACA
 CCCTGTGAGCCTGCATGGAATGGATGACCTGAGAGAGAAGTGTTAGAGTGGAGGTTTGACAGCCGCCTAG
 CATTTTCATCACGTGGCCCCGAGAGCTGCATCCGGAGTACTTCAAGAACTGCACTAGTGAGCCAGTAGATCCT
 AGACTAGAGCCCTGGAAGCATCCAGGAAGTCAGCCTAAACTGCTTGTACCAATTGCTATTGTAAAAAGTG
 TTGCTTTTCATTGCCAAGTTTGTTCATAACAGCTGCCTTAGGCATCTCCTATGGCAGGAAGAAGCGGAGAC
 AGCGACGAAGACCTCCTCAAGGCAGTCAGACTCATCAAGTTTCTCTATCAAAGCAACCCACCTCCCAATCC
 AAAGGGGAGCCGACAGGCCCGAAGGAATAA [SEQ ID NO: 51]

Amino acid sequence of antigen:

MGGKWSKSSVVGWPTVRERMRRRAEPAADGVGAASRDLEKHGAITSSNTAATNAACAWLEAQEE
 EEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDLDWIYHTQGYFPDWQNYT
 PPGVRYPLTFGWICYKLVPVEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFD SRLAFH
 HVARELHPEYFKNCTSEPVDPRLEPWKHPGSQPKTACTNICYCKKCCFHCQVCFITAAALGISYGRK
 KRRQRRRPPQGSQTHQVSLSKQPTSQSKGEPTGPKE [SEQ ID NO: 52]

Fig.5.

Plasmid ptrNTm:



Sequence of insert:

ATGGTGGGTTTTCCAGTCACACCTCAGGTACCTTTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAG
 CCACCTTTTAAAAGAAAAGGGGGGACTGGAAGGGCTAATTCACCTCCCAACGAAGACAAGATATCCTTGATC
 TGTGGATCTACCACACACAAGGCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGGTCAGATAT
 CCACTGACCTTTGGATGGTGCTACAAGCTAGTACCAGTTGAGCCAGATAAGGTAGAAGAGGCCAATAAAGG
 AGAGAACACCAGCTTGTTACACCCTGTGAGCCTGCATGGAATGGATGACCCTGAGAGAGAAGTGTTAGAGT
 GGAGGTTTGACAGCCGCTAGCATTTTCATCACGTGGCCCGAGAGCTGCATCCGGAGTACTTCAAGAACTGC
 ACTAGTGAGCCAGTAGATCCTAGACTAGAGCCCTGGAAGCATCCAGGAAGTCAGCCTAAAAGCTGCTTGATC
 CAATTGCTATTGTAAAAGTGTTGCTTTTCATTGCCAAGTTTGTTCATAACAGCTGCCTTAGGCATCTCCT
 ATGGCAGGAAGAAGCGGAGACAGCGACGAAGACCTCCTCAAGGCAGTCAGACTCATCAAGTTTCTCTATCA
 AAGCAACCCACCTCCCAATCCAAAGGGGAGCCGACAGGCCCGAAGGAATAA [SEQ ID NO: 53]

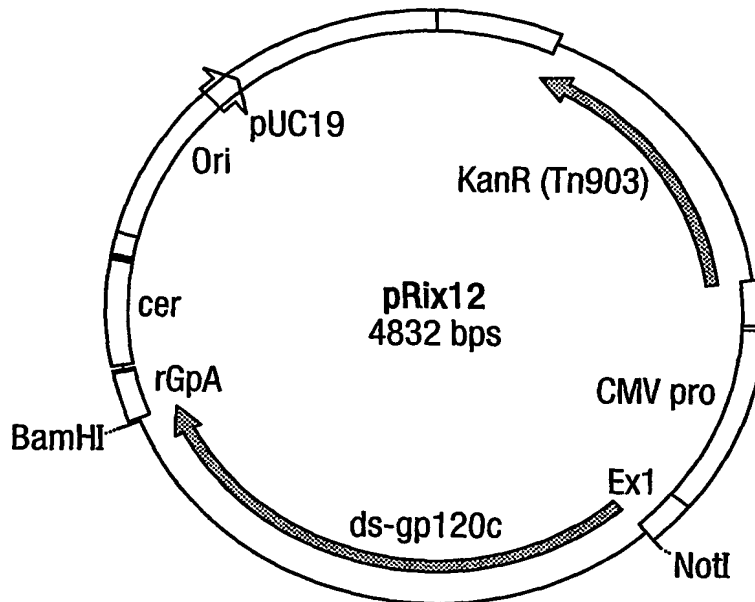
Amino acid sequence of antigen:

MVGFVPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDWYHTQGYFPDWQNYTPGPGVRY
 PLTFGWCYKLVPEPDKVEEANKGENTSLHLPVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNC
 TSEPVDPRLEPWKHPGSQPKTACTNCYCKKCCFHCQVCFITAALGISYGRKKRRQRRRPPQGSQTHQVSL
 KQPTSQSKGEPTGPKE [SEQ ID NO: 54]

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Fig.6.

Plasmid pRix12:



Sequence of insert:

ATGGCCGAGCAGCTGTGGGTCACCGTCTACTACGGCGTGCCTGTGTGGAAGGAGGCCACGACCACCCTCTT
 CTGCGCGAGCGACGCCAAGGCCCTACGACACGGAAGTGCATAACGTGTGGGCGACGCATGCTTGCGTGCCCTA
 CGGACCCCAACCCCAAGGAGGTGGTGTGGGAAACGTGACCGAGTACTTCAACATGTGGAAGAATAACATG
 GTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAGTCCCTGAAGCCCTGCGTGAAGCTGACGCC
 TCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACCAGCAACGGCTGGA
 CCGGAGAGATTCCGAAGGGCGAGATCAAGAACTGCTCCTTCAATATCAGCACCTCGATCAGAGACAAGGTG
 CAGAAGGAATACGCGCTGTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCACCAAGAA
 CAAGACGACGCGTAATTTACAGACTCATTCACTGCAACAGCAGCGTCATGACGCAGGCCTGCCCAAGGTGT
 CCTTCGAACCAATCCCGATCCATTACTGTGCCCTGCCGATTCGCGATCCTCAAGTGTAACAACAAGACC
 TTCGACGGGAAGGGCCTGTGCACCAACGTCAGCAGCGTGCAGTGCACCCATGGCATCCGCCCCGTCTGTGAG
 CACCCAGCTGCTGCTGAACGGGTCCCTGGCTGAGGAGGAGGTGGTGATCCGGTCCGACAACCTTCATGGACA
 ACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGCGATTAACTGTACCCGGCCTAACAACAACACC
 CGTAAGGGCATCCACATCGGGCCTGGACGGCCTTCTATGCCGCCCGCAAGATCATCGGGACATCCGGCA
 GGCCCATTGCAACCTCTCCCGCGCCAGTGGAAATAACACCTGAAGCAGATCGTGATCAAGCTGAGAGAGC
 ACTTTGGAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGGAGACCCGAGATCGTGCGGCACTCCTTC
 AACTGCGGGGCGAGTTCTTCTACTGCGATACGACACAGCTCTTCAACTCCACCTGGAACGGCACCGAGGG
 CAACAACACAGAGGGAACTCCACTATCACCTCCCTTGCCGCATCAAGCAGATCATCAACATGTGGCAGG
 AGGTGGGAAAGGCCATGTATGCCCCCCCCATCGGGGGCCAGATCCGCTGCTCCTCCAACATCACCGGCCTG
 CTGCTCACCAGAGACGGGGGCACCGAGGGCAACGGCACGGGAGAACGAGACGGAGATCTTCAGGCCCGGGG
 CGGCGACATGAGGGATAACTGGCGGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTGGAGCCGCTCGGCG
 TGGCCCCACCCGGGCAAGCGCCGCTCGTGACAGATGA [SEQ ID NO: 55]

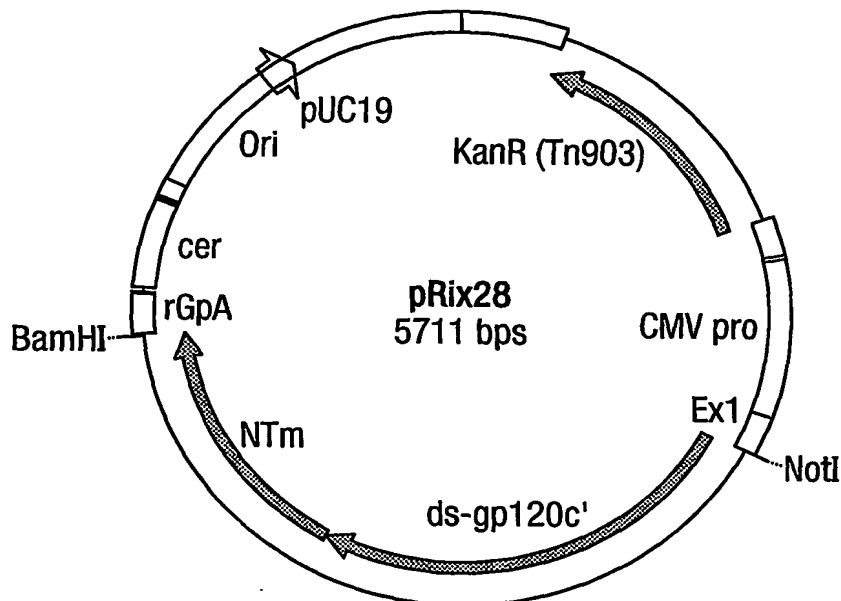
Amino acid sequence of antigen:

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 VDQMHEDIISLWDQSLKPCVKLTPLCVTLDCDDVNTTNSTTTTNSNGWTGEIRKGEIKNCSENIITTSIRDKV
 QKEYALFYNLDVVPIDDDNATTKNKTTRNFRLIHCNSSVMTQACPKVSFEPIPIHYCAPAGFAILKCNKNT
 FDGKGLCTNVSTVQCTHGIRPVVSTQLLNGSLAEDEVIRSDNFMDNTKTIIVQLNESVAINCTRPNNT
 RKGIIHIGPGRFYAARKIIGDIRQAHCNLSRAQWNNLTKQIVIKLREHFGNKTIFNQSSGGDPEIVRHSF
 NCGGEFFYCDTTQLFNSTWNGTEGNNTEGNTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL
 LLTRDGGTEGNGTENETEIFRPGGDMRDNRSELYKYKVVKVEPLGVAPTRAKRRVVQR [SEQ ID
 NO: 56]

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Fig.7.

Plasmid pRix28:



Sequence of insert:

ATGGCCGAGCAGCTGTGGGTCACCGTCTACTACGGCGTGCTGTGTGGAAGGAGGCCACGACCACCCCTCTT
 CTGCGCGAGCGACGCCAAGGCCTACGACACGGAAGTGCATAACGTGTGGGCGACGCATGCTTGCGTGCCTA
 CGGACCCCAACCCCCAGGAGGTGGTGTCTGGGAAACGTGACCGAGTACTTCAACATGTGGAAGAATAACATG
 GTGGATCAGATGCACGAGGACATCATCTCTGTGTGGGACCAGTCCCTGAAGCCCTGCGTGAAGCTGACGCC
 TCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACCAGCAACGGCTGGA
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 CAGAAGGAATACGCGCTGTTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCACCAAGAA
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 CCTTCGAACCAATCCCGATCCATTACTGTGCCCCCTGCCGGATTGCGGATCCTCAAGTGTAACAACAAGACC
 TTCGACGGGAAGGGCCTGTGCACCAACGTGACGACGGTGCAGTGCACCCATGGCATCCGCCCCGTCTGTGAG
 CACCCAGCTGCTGCTGAACGGGTCCCTGGCTGAGGAGGAGGTGGTGATCCGGTCCGACAACCTTCATGGACA
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 CGTAAGGGCATCCACATCGGGCCTGGACGGGCTTCTATGCCGCCCGCAAGATCATCGGGGACATCCGGCA
 GGCCCATTTGCAACCTCTCCCGCGCCAGTGGAAATAACACCCTGAAGCAGATCGTGATCAAGCTGAGAGAGC
 ACTTTGGAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGGAGACCCGAGATCGTGCGGCACTCCTTC
 AACTGCGGGGGCGAGTTCTTCTACTGCGATACGACAGCTCTTCAACTCCACCTGGAACGGCACCAGGGG
 CAACAACACAGAGGGGAACTCCACTATCACCCCTCCCTTGCCGCATCAAGCAGATCATCAACATGTGGCAGG
 AGGTGGGAAAGGCCATGTATGCCCCCCCATCGGGGGCCAGATCCGCTGCTCCTCCAACATCACCGGCCCTG
 CTGCTCACGAGAGACGGGGGCACCGAGGGCAACGGCACGGAGAACGAGACGGAGATCTTCAGGCCCGGGCG
 CGGCGACATGAGGGATAACTGGCGGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTGGAGCCGCTCGGGC
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 AGACCTGGAAAAACATGGAGCAATCACAAGTAGCAATACAGCAGCTACCAATGCTGCTTGTGCTGGCTAG
 AAGCACAAGAGGAGGAGGAGGTGGGTTTTCCAGTCAACCTCAGGTACCTTTAAGACCAATGACTTACAAG
 GCAGCTGTAGATCTTAGCCACTTTTTTAAAGAAAAGGGGGGACTGGAAGGGCTAATCACTCCCAACGAAG
 ACAAGATATCCTTGATCTGTGGATCTACCACACACAAGGCTACTTCCCTGATTGGCAGAATAACACCAG
 GGCCAGGGGTCAGATATCACTGACCTTTGGATGGTGCTACAAGCTAGTACCAGTTGAGCCAGATAAGGTA
 GAAGAGGCCAATAAAGGAGAGAACACCAGCTTGTTACACCCTGTGAGCCTGCATGGAATGGATGACCCTGA
 GAGAGAAGTGTAGAGTGGAGGTTTGACAGCCGCCTAGCATTTTCATCACGTGGCCCCGAGAGCTGCATCCGG
 AGTACTTCAAGAACTGCACTAGTGAGCCAGTAGATCCTAGACTAGAGCCCTGGAAGCATCCAGGAAGTCAG

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Fig.7 (Cont).

CCTAAACTGCTTGTACCAATTGCTATTGTAAAAAGTGTGCTTTCATTGCCAAGTTTGTTCATAACAGC
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[SEQ ID NO: 57]

Amino acid sequence of antigen:

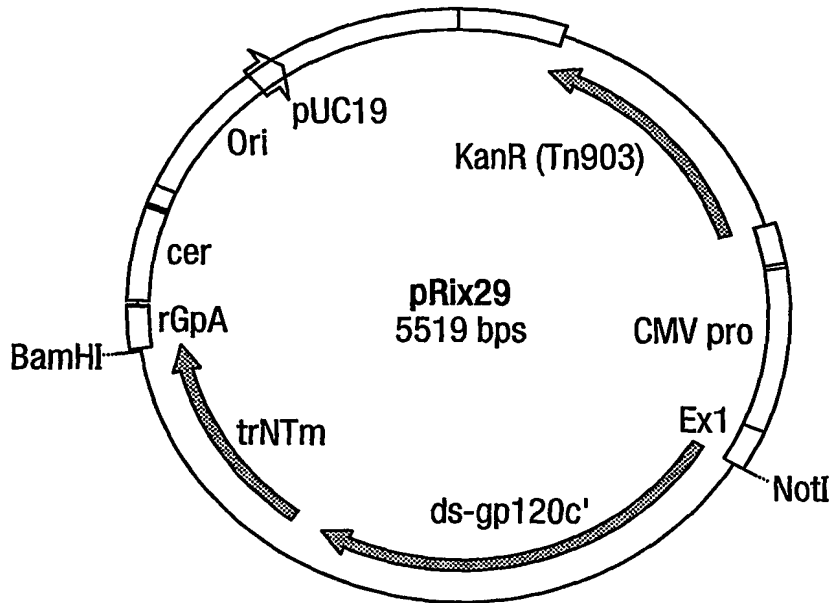
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VDQMHEDIISLWDQSLKPCVKLTPLCVTLDCDDVNTTNSTTTTSNGWTGEIRKGEIKNCSFNITTSIRDKV
QKEYALFYNLDVVPIDDDNATTKNKTTRNFRLIHCNSSVMTQACPKVSFEPIPIHYCAPAGFAILKCNNKT
FDGKGLCTNVSTVQCTHGIRPVVSTQLLLNGSLAESEVIRSDNFMDNTKTIIVQLNESVAINCTRPNNNT
RKGIIHIGPGRFYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIKFNQSSGGDPEIVRHSF
NCGGEFFYCDTTQLFNSTWNGTEGNNTTEGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL
LLTRDGGTEGNGTENETEIFRPGGGDMRDNRSELYKYKVVKVEPLGVAPTRAKRRVVQRMGGKWSKSSVV
GWPTVRERMRAEPAADGVGAASRDLEKHGAITSSNTAATNAACAWLEAQEEEEVGFPVTPQVPLRPMTYK
AAVDLSHFLKEKGGLEGLIHSQRRQDILDWYHTQGYFPDWQNYTPGPGVRYPLTFGWICYKLVPVEPDKV
EEANKGENTSLLHPVSLHGMDPPEREVLEWRFD SRLAFHHVARELHPEYFKNCTSEPVDPRLPWKHPGSQ
PKTACTNCYCKKCCFHCQVCFITAAALGISYGRKKRRQRRRPPQGSQTHQVSLSKQPTSQSKGEPTGPKE

[SEQ ID NO: 58]

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Fig.8.

Plasmid pRix29:



Sequence of insert:

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 CGGACCCCAACCCCCAGGAGGTGGTGCTGGGAAACGTGACCGAGTACTTCAACATGTGGAAGAATAACATG
 GTGGATCAGATGCACGAGGACATCATCTCTGTGTGGGACCAGTCCCTGAAGCCCTGCGTGAAGCTGACGCC
 TCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACCAGCAACGGCTGGA
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 CACCCAGCTGCTGCTGAACGGGTCCCTGGCTGAGGAGGAGGTGGTGATCCGGTCGGACAACCTCATGGACA
 ACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGCGATTAACTGTACCCGGCCCTAACACAACACC
 CGTAAGGGCATCCACATCGGGCCTGGACGGGCCCTTCTATGCCGCCCGCAAGATCATCGGCGACATCCGGCA
 GGCCCATTGCAACCTCTCCCGCGCCAGTGGAATAACACCCTGAAGCAGATCGTGATCAAGCTGAGAGAGC
 ACTTTGGAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGGAGACCCGAGATCGTGCGGCACTCCTTC
 AACTGCGGGGGCGAGTTCTTCTACTGCGATACGACACAGCTCTTCAACTCCACCTGGAACGGCACCAGGGG
 CAACAACACAGAGGGAACTCCACTATCACCCCTCCCTTGCCGCATCAAGCAGATCATCAACATGTGGCAGG
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 TTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTTAAAAAGAAAAGGGGGGACTGGAAGG
 GCTAATTCACTCCCAACGAAGACAAGATATCCTTGATCTGTGGATCTACCACACACAAGGCTACTTCCCTG
 ATTGGCAGAACTACACACCAGGGCCAGGGGTGAGATATCCACTGACCTTTGGATGGTGCTACAAGCTAGTA
 CCAGTTGAGCCAGATAAGGTAGAAGAGGCCAATAAAGGAGAGAACACCAGCTTGTTACACCTGTGAGCCT
 GCATGGAATGGATGACCCTGAGAGAGAAGTGTAGAGTGGAGGTTTGACAGCCGCTAGCATTTTCATCAG
 TGGCCCGAGAGCTGCATCCGGAGTACTTCAAGAACTGCACTAGTGAGCCAGTAGATCCTAGACTAGAGCCC
 TGGAAGCATCCAGGAAGTCAGCCTAAAAGTCTTGTACCAATTGCTATTGTAAAAAGTGTGCTTTTCATTG
 CCAAGTTTGTTCATAACAGCTGCCTTAGGCATCTCCTATGGCAGGAAGAAGCGGAGACAGCGACGAAGAC
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Fig.8 (Cont).

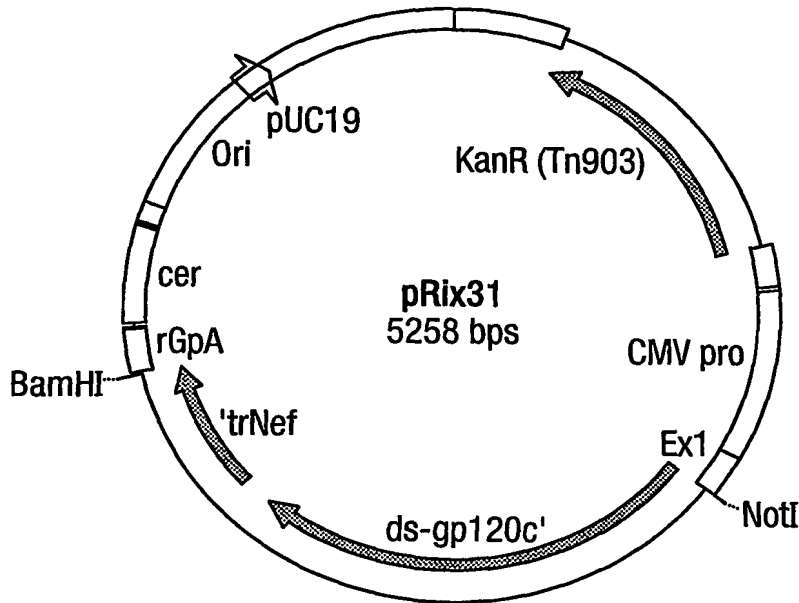
Amino acid sequence of antigen:

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FDGKGLCTNVSTVQCTHGIRPVVSTQLLNGLSLAEDEVIRSDNFMNTKTIIIVQLNESVAINCTRPNNNT
RKGIHIGPGRAFYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIKFNQSSGGDPEIVRHSF
NCGGEFFYCDTTQLFNSTWNGTEGNNTEGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL
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LRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLV
PVEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNCTSEPVDPRLEP
WKHPGSQPKTACTNCYCKKCCFHCQVCFITAALGISYGRKKRRQRRRPPQGSQTHQVSLSKQPTSQSKGEP
TGPKE [SEQ ID NO: 60]

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Fig.9.

Plasmid pRix31:



Sequence of insert:

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 CTGCGCGAGCGACGCCAAGGCCTACGACACGGAAGTGCATAACGTGTGGGCGACGCATGCTTGCGTGCCCTA
 CGGACCCCAACCCCCAGGAGGTGGTGGTGGGAAACGTGACCGAGTACTTCAACATGTGGAAGAATAACATG
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 CGTAAGGGCATCCACATCGGGCCTGGACGGGCCTTCTATGCCGCCCGCAAGATCATCGGCGACATCCGGCA
 GGCCCATTCGAACCTCTCCCGCGCCAGTGAATAACACCCTGAAGCAGATCGTGATCAAGCTGAGAGAGC
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 TTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTTTAAAGAAAAGGGGGGACTGGAAGG
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 ATTGGCAGAACTACACACCAGGGCCAGGGTGTAGATATCCACTGACCTTTGGATGGTGCTACAAGCTAGTA
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Amino acid sequence of antigen:

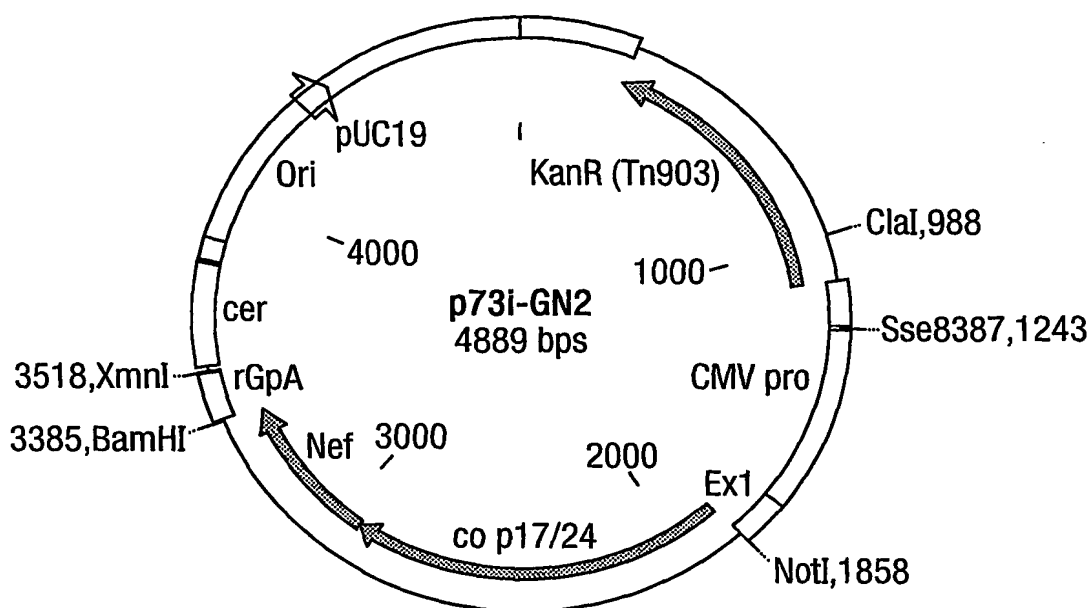
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Fig.9 (Cont).

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[SEQ ID NO: 62]

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Fig.10.



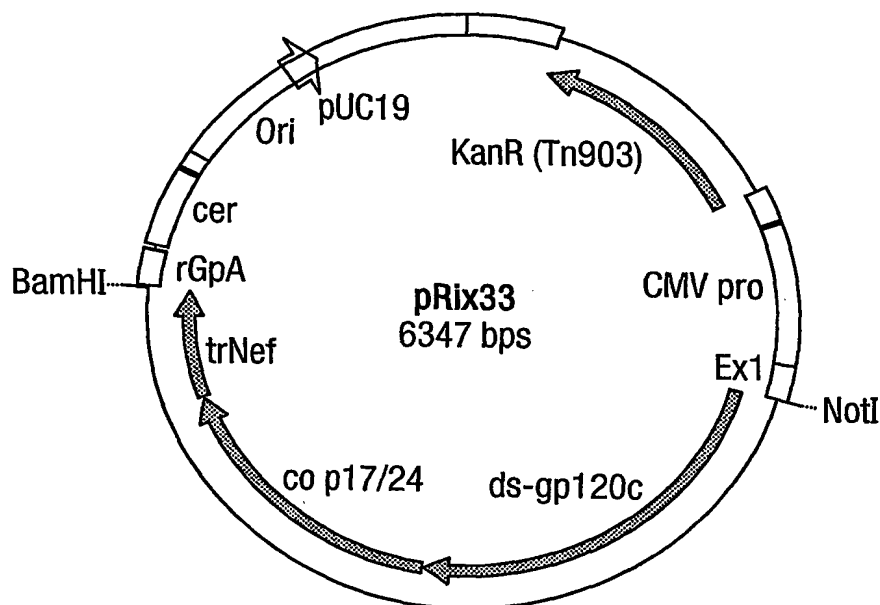
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 ACACCAGGGCCAGGGGTCAGATATCCACTGACCTTTGGATGGTGCTACAAGCTAGTACCAGTTGAGCCAGA
 TAAGGTAGAAGAGGCCAATAAAGGAGAGAACACCAGCTTGTTACACCCTGTGAGCCTGCATGGGATGGATG
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Fig.11.

Plasmid pRix33:



Sequence of insert:

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Fig.11 (Cont).

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[SEQ ID NO: 64]

Amino acid sequence of antigen:

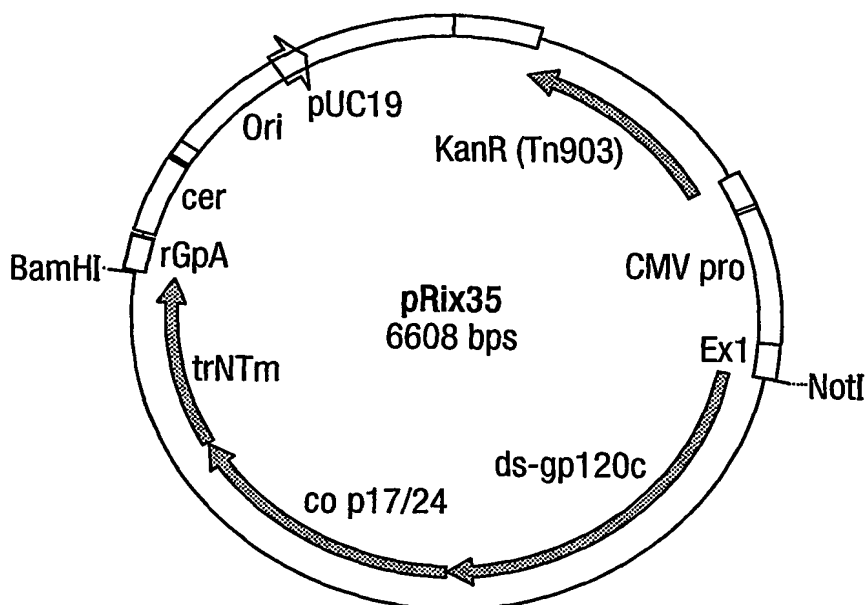
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[SEQ ID NO: 65]

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Fig.12.

Plasmid pRix35:



Sequence of insert

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Fig.12 (Cont).

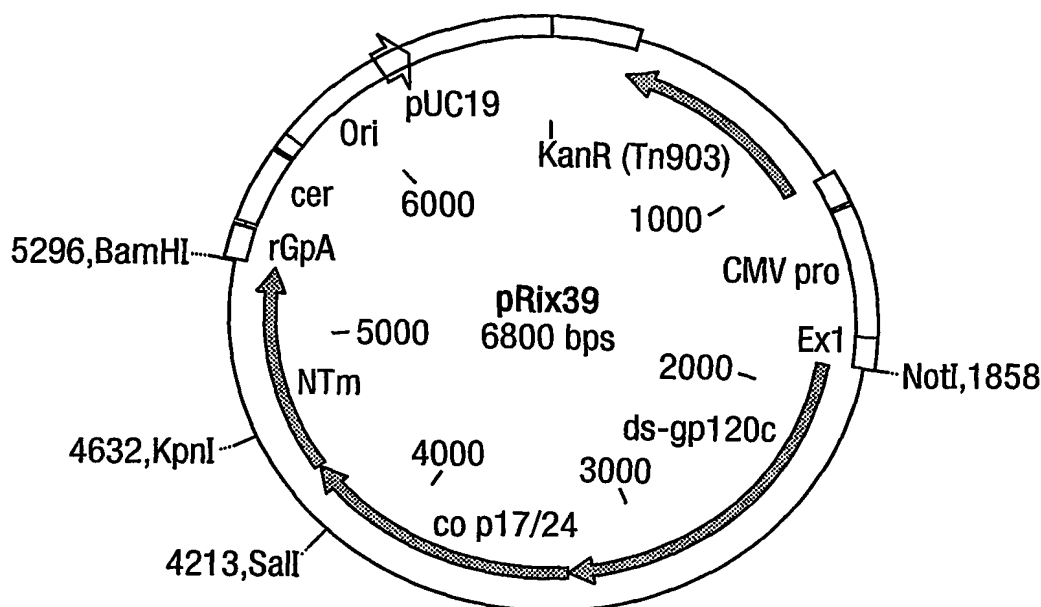
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Fig.13.



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Fig.13 (Cont).

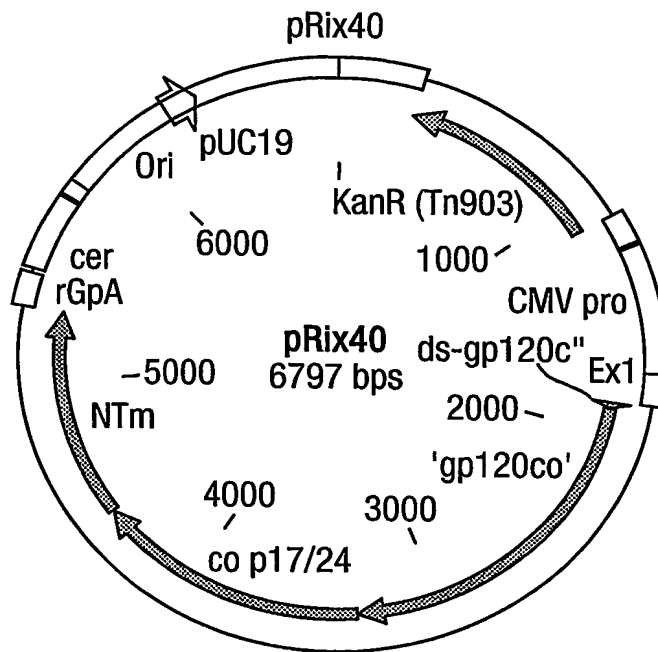
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PGQMRPRGSDIAGTTSTLQEQIGWMTNPNPIPVGEIYKRWIILGLNKIVRMYSPITSILDIRQGPKEPFRD
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VPVEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNCTSEPVDPRL E
PWKHPGSQPKTACTNCYCKKCCFHCQVCFITAALGISYGRKKRRQRRPPQGSQTHQVSLSKQPTSQSKGE
PTGPKE [SEQ ID NO: 69]

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Fig.14.



DNA sequence of insert

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 TCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACCAGCAACGGCTGGA
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 CAGAAGGAATACGCGCTGTTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCACCAAGAA
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Fig.14 (Cont).

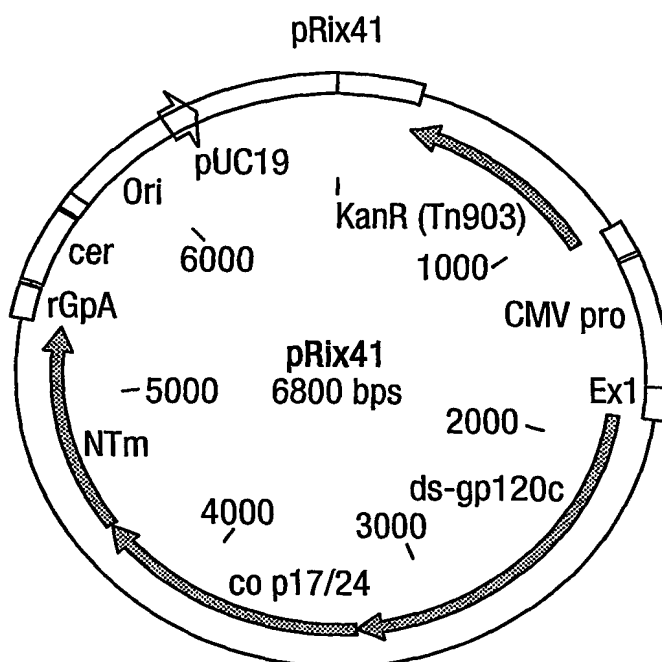
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CCAAGTTTGTTCATAACAGCTGCCTTAGGCATCTCCTATGGCAGGAAGAAGCGGAGACAGCGACGAAGAC
CTCCTCAAGGCAGTCAGACTCATCAAGTTTCTCTATCAAGCAACCCACCTCCCAATCCAAAGGGGAGCCG
ACAGGCCCGAAGGAATAA [SEQ ID NO: 70]

Aminoacid sequence of insert

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FDGKGLCTNVSTVQCTHGIRPVVSTQLLLNGSLAEEVVIRSDNFMDNTKTIIVQLNESVAINCTRPNNT
RKGIHIGPGRAFYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIKFNQSSGGDPEIVRHSF
NCGGEFFYCDTTQLFNSTWNGTEGNTEGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL
LLTRDGGTEGNNGTENETEIFRPGGGMDRDNWRSELYKYKVVKVEPLGVAPTRAKRRVVQRMGARASVLSGG
ELDRWEKIRLRPGGKKKYKLKHIVWASRELERFAVNPGLLETSEGCRQILGQLQPSLQTGSEELRSLYNTV
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AWVKVVEEKAFSPVPIPMFSALSEGATPQDLNMTLNTVGGHQAMQMLKETINEEAAEWDRVHPVHAGPIA
PGQMREPRGSDIAGTTSTLQEQIGWMTNPNPIPVGEIYKRWIILGLNKIVRMYSPITSILDIRQGPKEPFRD
YVDRFYKTLRAEQASQEVKNWMTETLLVQANPDCCKTILKALGPAATLEEMMTACQGVGGPGHKARVLMGK
WSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAITSSNTAATNAACAWLEAQEEEEVGFVTPQVP
LRPMTYKAAVDLSHFLKEKGGLGLELIHSQRRQDILDWYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLV
PVEPDKVEEANKGENTSLHPVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNCTSEPVDPRLEP
WKHPGSQPKTACTNCYCKKCCFHCQVCFITAAALGISYGRKKRRQRRRPPQGSQTHQVSLSKQPTSQSKGEP
TGPKE [SEQ ID NO: 71]

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Fig.15.



DNA sequence of insert

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 CGGACCCCAACCCCCAGGAGGTGGTGTCTGGGAAACGTGACCGAGTACTTCAACATGTGGAAGAATAACATG
 GTGGATCAGATGCACGAGGACATCATCTCTGTGGGACAGTCCCTGAAGCCCTGCGTGAAGCTGACGCC
 TCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACCAGCAACGGCTGGA
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Fig.15 (Cont).

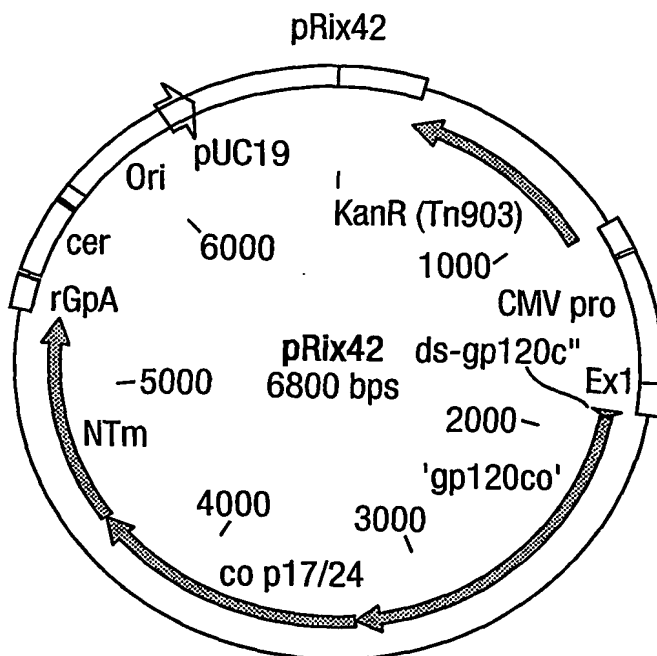
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Aminoacid sequence of insert

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 RKGIIHIGPGRAFYAARKIIGDIRQAHCNLSRAQWNNLTKQIVIKLREHFGNKTIFKNQSSGGDPEIVRHSF
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 ATLYCVHQRIEIKDTKEALDKIEEQNKSKKKAQQAADTGHNSQVSNYPYQNIQGMVHQAI SPRTL N
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 PGQMRPRGSDIAGTTSTLQEQIGWMTNNPPIPVGEIYKRWIILGLNKIVRMYSPTSILDIRQGPKEPRD
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 PTGPKE [SEQ ID NO: 73]

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Fig.16.



DNA sequence of insert

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 TCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACCAGCAACGGCTGGA
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Fig.16 (Cont).

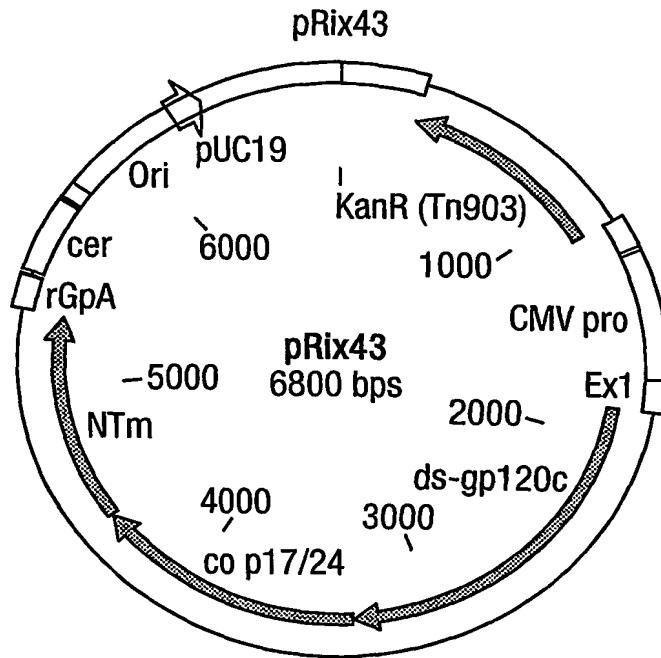
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Aminoacid sequence of insert

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PTGPKE [SEQ ID NO: 75]

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Fig.17.



DNA sequence of insert

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 GGCCCATTGCAACCTCTCCCGCGCCAGTGGAATAACACCCTGAAGCAGATCGTGATCAAGCTGAGAGAGC
 ACTTTGGAAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGGAGACCCCGAGATCGTGCGGCACCTCCTTC
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 GCCTGGGTGAAGGTTGTGCAAGAGAAGGCCTTTTCTCCTGAGGTTATCCCCATGTTCTCCGCTTTGAGTGA
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Fig.17 (Cont).

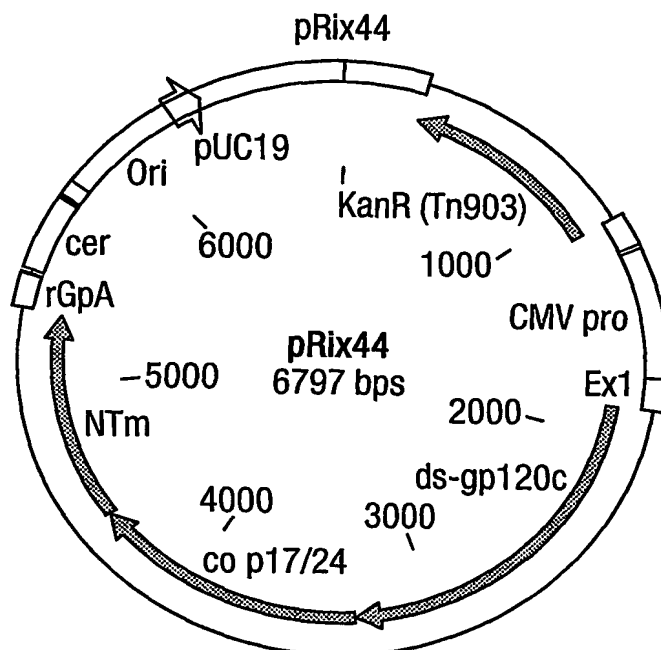
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 CCGACAGGCCCGAAGGAATAA [SEQ ID NO: 76]

Aminoacid sequence of insert

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 QKEYALFYNLDVPIDDDNATTKNKTTRNFRLIHCNSSVMTQACPKVSFEPIPIHYCAPAGFAILKCNNKT
 FDGKGLCTNVSTVQCTHGIRPVVSTQLLLNGSLAEEEVVIRSDNFMNDNTKTIIVQLNESVAINCTRPNNT
 RKGIHIGPGRFYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIFNQSSGGDPEIVRHSF
 NCGGEFFYCDTTQLFNSTWNGTEGNNTGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL
 LLTRDGGTEGNGTENETEIFRPGGDMRDNRSELYKYKVVKEPLGVAPTRAKRRVVQRMGARASVLSGG
 ELDRWEKIRLRPGGKKKYKLKHIVWASRELERFAVNPGLLETSEGCRQILGQLQPSLOTGSEELRSLYNTV
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 AWWKVVEEKAFSPEVIPMFSALSEGATPQDLNMTLNTVGGHQAAMQMLKETINEEAAEWDVRVHPVHAGPIA
 PGQMRPRGSDIAGTTSTLQEQIGWMTNPNPIPVGGEIYKRWIILGLNKIVRMYSPTSILDIRQGPKEPFRD
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 KWSKSSVVGWPTVRERMRRRAEPAADGVGAASRDLEKHGAITSSNTAATNAACAWLEAQEEEEVGFPVTPQV
 PLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDWIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKL
 VPVEPDKVEEANKGENTSAAHPVSLHGMDDPEREVLEWRFDLSRLAFHHVARELHPEYFKNCTSEVPDPRLE
 PWKHPGSQPKTACTNICYCKKCCFHCQVCFITAALGISYGRKKRRQRRRPPQGSQTHQVSLSKQPTSQSKGE
 PTGPKE [SEQ ID NO: 77]

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Fig. 18.



DNA sequence of insert

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 TCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACCAGCAACGGCTGGA
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 GGCCCATTGCAACCTCTCCCGCGCCAGTGGAAATAACACCCCTGAAGCAGATCGTGATCAAGCTGAGAGAGC
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 GCCTGGGTGAAGGTTGTGAAGAGAAGGCCTTTTCTCCTGAGGTTATCCCCATGTTCTCCGCTTTGAGTGA
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Fig.18 (Cont).

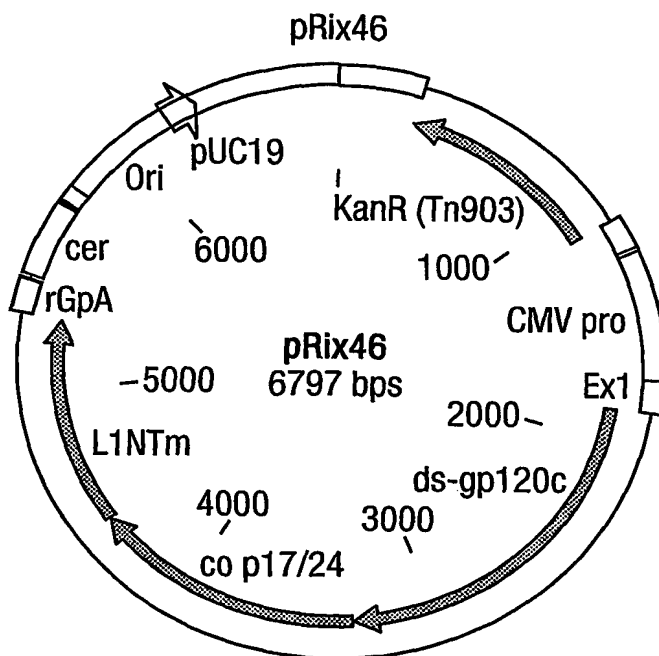
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Aminoacid sequence of insert

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RKGIIHIGPGRAFYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIFKNQSSGGDPEIVRHSF
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PGQMRPRGSDIAGTTSTLQEQIGWMTNNPPIPVGEIYKRWIILGLNKIVRMYSPTSILDIRQGPKEPFRD
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PVEPDKVEEANKGENTSAAHPVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNCTSEPVDPRLEP
WKHPGSQPKTACTNCYCKKCCFHCQVCFITAALGISYGRKKRRQRRRPPQGSQTHQVSLSKQPTSQSKGEP
TGPKE [SEQ ID NO: 79]

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Fig.19.



DNA sequence of insert

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 TCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACCAGCAACGGCTGGA
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Fig.19 (Cont).

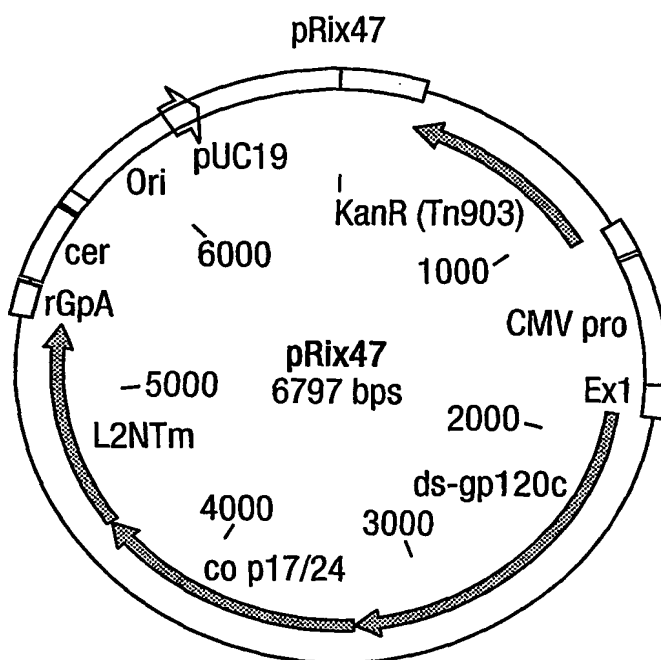
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CTCCTCAAGGCAGTCAGACTCATCAAGTTTCTCTATCAAAGCAACCCACCTCCCAATCCAAAGGGAGCCG
ACAGGCCCCGAAGGAATAA [SEQ ID NO: 80]

Aminoacid sequence of insert

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FDGKGLCTNVSTVQCTHGIRPVVSTQLLLNGSLAEEEVVIRSDNFMDNKTIIIVQLNESVAINCTRPNNT
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ELDRWEKIRLRPGGKKKYKLKHIVWASRELERFAVNPGLLETSEGCRQILGQLQPSLQTGSEELRSLYNTV
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AWVKVVEEKAFSPEVIMFSALEGATPQDLNMLNTVGGHQAAMQMLKETINEEAAEWDRVHPVHAGPIA
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TGPKE [SEQ ID NO: 81]

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Fig.20.



DNA sequence of insert

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Fig.20 (Cont).

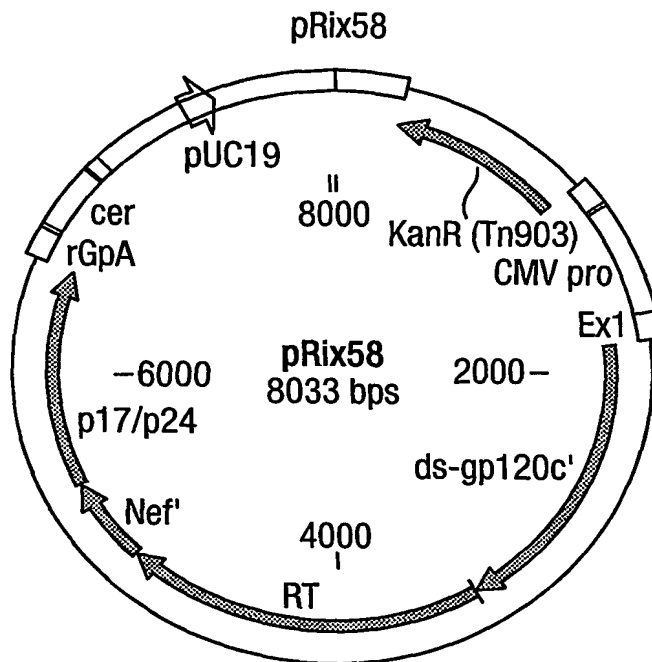
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CCCGGACAGATGCGGGAGCCTCGCGGCTCTGACATTGCCGGCACCACCTCTACACTGCAAGAGCAAATCGG
ATGGATGACCAACAATCCTCCCATCCCAGTTGGAGAAATCTATAAACGGTGGATCATTCTCGGTCTCAATA
AAATTGTTAGAATGTACTCTCCGACATCCATCCTTGACATTAGACAGGGACCCAAAGAGCCTTTTAGGGAT
TACGTCGACCGGTTTTATAAGACCCTGCGAGCAGAGCAGGCCTCTCAGGAGGTCAAAAACCTGGATGACGGA
GACACTCCTGGTACAGAACGCTAACCCCGACTGCAAAACAATCTTGAAGGCACTAGGCCCGGCTGCCACCC
TGGAAGAGATGATGACCGCTGTGAGGGAGTAGGCGGACCCGGACACAAAGCCAGAGTGTTGATGGGCAAG
TGGTCAAAAAGTAGTGTGGTTGGATGGCTACTGTAAGGGAAAGAATGAGACGAGCTGAGCCAGCAGCAGA
TGGGGTGGGAGCAGCATCTCGAGACCTGGAAAACATGGAGCAATCACAAGTAGCAATACAGCAGCTACCA
ATGCTGCTTGTGCCTGGCTAGAAGCACAAAGAGGAGGAGGAGTGGGTTTTCCAGTCACACCTCAGGTACCT
TTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTTTTAAAGAAAAGGGGGGACTGGAAGG
GCTAATTCACCTCCCAACGAAGACAAGATATCCTTGATCTGTGGATCTACCACACACAAGGCTACTTCCCTG
ATTGGCAGAACTACACACCAGGGCCAGGGGTGAGATATCCACTGACCTTTGGATGGTGCTACAAGCTAGTA
CCAGTTGAGCCAGATAAGGTAGAAGAGGCCAATAAAGGAGAGAACACCAGCTTGGCACACCCTGTGAGCCT
GCATGGAATGGATGACCCCTGAGAGAGAAGTGTTAGAGTGGAGGTTTGACAGCCGCCTAGCATTTCATCAG
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CCAAGTTTGTTCATAACAGCTGCCTTAGGCATCTCCTATGGCAGGAAGAAGCGGAGACAGCGACGAAGAC
CTCCTCAAGGCAGTCAGACTCATCAAGTTTCTCTATCAAAGCAACCCACCTCCCAATCCAAAGGGGAGCCG
ACAGGCCCGAAGGAATAA [SEQ ID NO: 82]

Aminoacid sequence of insert

MAEQLWVTVYYGVFVWKEATTTLFCASDAKAYDTEVHNWATHACVPTDPNPQEVVLGNVTEYFNMWKNNM
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QKEYALFYNLDVVPIDDDNATTKNKTTRNFRLIHCNSSVMTQACPKVSFEPIPIHYCAPAGFAILKCNNT
FDGKGLCTNVSTVQCTHGIRPVVSTQLLNGSLAEEVVIRSDNFMNTKTIIVQLNESVAINCTRPNNT
RKGIIHIGPGRAFYAARKIIGDIRQAHCNLSRAQWNTLQIVIKLREHFGNKTIFKNQSSGGDPEIVRHSF
NCGGEFFYCDTTQLFNSTWNGTEGNNTTEGNSTITLPCRIOIINMWQEVGKAMYAPPIGGQIRCSSNITGL
LLTRDGGTEGNNGTENETEIFRPGGDMRDNRSELYKYKVVEPLGVAPTRAKRRVVQRMGARASVLSGG
ELDRWEKIRLRPGGKKKYKLKHIVWASRELERFAVNPLLETSEGCRQILGQLQPSLQTGSEELRSLYNTV
ATLYCVHQRIEIKDTKEALDKIEEQNKSKKKAQQAADTGHNSQVSQNYPIVQNIQGMVHQAI SPRTL N
AWVKVVEEKAFSPEVIPMFSALEGATPQDLNMTLNTVGGHQAMQMLKETINEEAAEWDRVHPVHAGPIA
PGQMREPRGSDIAGTTSTLQEQIGWMTNPPPIVGEIYKRWIILGLNKIVRMYSPSILDIRQGPKEPFRD
YVDRFYKTLRAEQASQEVKNWMTETLLVQANPDKTILKALGPAATLEEMMTACQGVGGPGHKARVLMGK
WSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAITSSNTAATNAACAWLEAQEEEEVGFPVTPQVP
LRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDLIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLV
PVEPDKVEEANKGENTSLAHPVSLHGMDDEPEREVLEWRFDSRLAFHHVARELHPEYFKNCTSEPVDRLEP
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TGPKE [SEQ ID NO: 83]

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Fig.21.



DNA sequence of insert

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 CGGACCCCAACCCCAAGGAGGTGGTGTGGGAAACGTGACCCAGTACTTCAACATGTGGAAGAATAACATG
 GTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCACTCCCTGAAGCCCTGCGTGAAGCTGACGCC
 TCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACCAGCAACGGCTGGA
 CCGGAGAGATTTCGAAGGGCGAGATCAAGAACTGCTCCTTCAATATCACGACCTCGATCAGAGACAAGGTG
 CAGAAGGAATACGCGCTGTTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCACCAAGAA
 CAAGACGACGCGTAATTTTCACTCATTCACTGCAACAGCAGCGTCATGACGCAGGCCTGCCCAAGGTGT
 CCTTCGAACCAATCCCGATCCATTACTGTGCCCCCTGCCGATTCCGCGATCCTCAAGTGTAACAACAAGACC
 TTCGACGGGAAGGGCCTGTGCACCAACGTGACGACGGTGCAGTGCACCCATGGCATCCGCCCCGTGCTGAG
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 CGTAAGGGCATCCACATCGGGCCTGGACGGGCCTTCTATGCCGCCCGCAAGATCATCGGCGACATCCGGCA
 GGCCCATTTGCAACCTCTCCCGCGCCAGTGGAATAACACCCTGAAGCAGATCGTGATCAAGCTGAGAGAGC
 ACTTTGGAAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGGAGACCCCGAGATCGTGCGGCACTCCTTC
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 AGGTGGGAAAGGCCATGTATGCCCCCCCCATCGGGGGCCAGATCCGCTGCTCCTCCAACATCACCGGCCTG
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 CGGCGACATGAGGGATAACTGGCGGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTGGAGCCGCTCGGCG
 TGGCCCCACCCGGGCCAAGCGCCGCTGTCAGAGAAATGGGCCCCATCAGTCCCATCGAGACCGTGCCG
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 ACACCCCGTGTTTGCCATCAAGAAGAAGGACAGCACCAAGTGGCGCAAGCTGGTGGATTTCGGGGAGCTG
 AATAAGCGGACCCAGGATTTCTGGGAGGTCCAGCTGGGCATCCCCATCCGGCCGGCCTGAAGAAGAAGAA
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 CCGCCTTTACCATCCCATCTATCAACAACGAGACCCCTGGCATCAGATATCAGTACAACGTCCTCCCCCAG
 GGCTGGAAGGGCTCTCCCGCCATTTTCCAGAGCTCCATGACCAAGATCCTGGAGCCGTTTCGGAAGCAGAA
 CCCCGATATCGTCATCTACCAGTACATGGACGACCTGTACGTGGGCTCTGACCTGGAAATCGGGCAGCATC

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Fig.21 (Cont I).

GCACGAAGATTGAGGAGCTGAGGCAGCATCTGCTGAGATGGGGCCTGACCACTCCGGACAAGAAGCATCAG
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GTCAAGCAGCTGACCGAGGCGTCCAGAAGATCACGACCGAGTCCATCGTGATCTGGGGGAAGACACCCAA
GTTCAAGCTGCCTATCCAGAAGGAGACCTGGGAGACGTGGTGGACCGAATATTGGCAGGCCACCTGGATT
CCGAGTGGGAGTTCGTGAATACACCTCCTCTGGTGAAGCTGTGGTACCAGCTCGAGAAGGAGCCCATCGTG
GGCGCGGAGACATTCTACGTGGACGGCGCGGCCAACC CGCAAACAAAGCTCGGAAGGCCGGGTACGTCAC
CAACCGGGGCCCGCCAGAAGGTCTGACCCCTGACCGACACCACCAACCAGAAGACGGAGCTGCAGGCCATCT
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CGGAGTACTTCAAGAACTGCATGGGTGCCGAGCTTCGGTACTGTCTGGTGGAGAGCTGGACAGATGGGAG
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TGAACGGTTTGCCGTGAACCCAGGCCTGCTGGAACATCTGAGGGATGTCGCCAGATCCTGGGGCAATTGC
AGCCATCCCTCCAGACCGGGAGTGAAGAGCTGAGGTCTTGATAACACAGTGGCTACCTCTACTGCGTA
CACCAGAGGATCGAGATTAAGGATACCAAGGAGGCCTTGACAAAATGAGGAGGAGCAAAACAAGAGCAA
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AAAACATTCAGGGCCAGATGGTTCATCAGGCCATCAGCCCCCGGACGCTCAATGCCTGGGTGAAGGTTGTC
GAAGAGAAGGCCTTTTCTCCTGAGGTTATCCCCATGTTCTCCGCTTTGAGTGAGGGGGCCACTCCTCAGGA
CCTCAATACAATGCTTAATACCGTGGGCGGCCATCAGGCCGCCATGCAAATGTTGAAGGAGACTATCAACG
AGGAGGCAGCCGAGTGGGACAGAGTGCATCCCGTCCACGCTGGCCCAATCGCGCCCGGACAGATGCGGGAG
CCTCGCGGCTCTGACATTGCCGGCACCACCTCTACACTGCAAGAGCAAATCGGATGGATGACCAACAATCC
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Aminoacid sequence of insert

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FDGKGLCTNVSTVQCTHGIRPVVSTQLLLNGSLAEEVVIRSDNFMNTKTIIVQLNESVAINCTRPNNT
RKGIIHGPGRAFYAARKIIGDIRQAHCNLSRAQWNTLQKQIVIKLREHFGNKTIFNQSSGGDPEIVRHSF
NCGGEFFYCDTTQLFNSTWNGTEGNTEGNSTITLPCRKQIINMWQEVGKAMYAPPIGGQIRCSSNITGL
LLTRDGGTEGNGTENETEIFRPGGDMRDNRSELYKYKVVKVEPLGVAPTRAKRRVVQRMGPISPIETVP
VKLKPGMDGPKVKQWPLTEEKIKALVEICTEMEKEGKISKIGPENPYNTPVFAIKKDDSTKWRKLVDFREL
NKRTQDFWEVQLGIPHPAGLKKKSVTVLVDGDAYFSVPLDEDFRKYTAFTIPSINNETPGIRYQYNVLPQ
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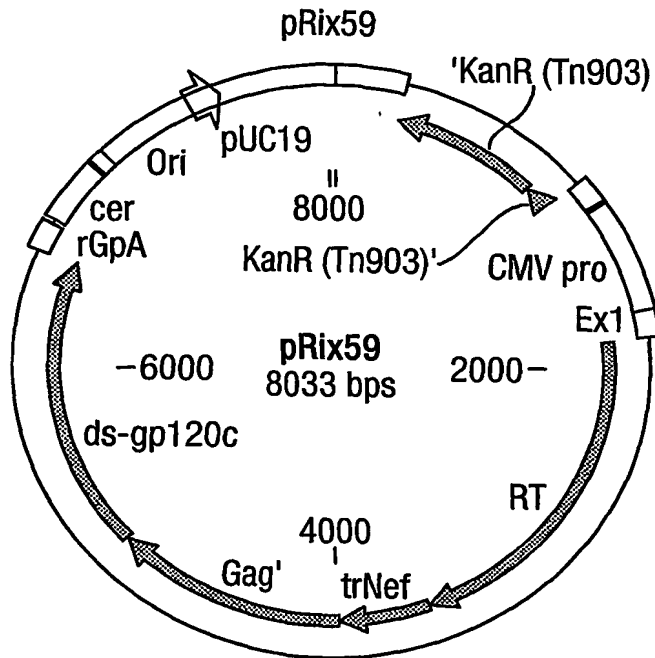
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Fig.21 (Cont II).

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KIRLRPGGKKKYKLKHIVWASRELERFAVNPGLLETSEGCRQILGQLQPSLQTGSEELRSYNTVATLYCV
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EEKAFSPEVIPMFSALESEGATPQDLNMLNTVGGHQAAMQMLKETINEEAAEWDRVHPVHAGPIAPGQMR
PRGSDIAGTTSTLQEQIGWMTNPPPIPVGEIYKRWIILGLNKIVRMYSPSILDIRQGPKPEFRDYVDRFY
KTLRAEQASQEVKNWMTETLLVQANPDKTILKALGPAATLEEMMTACQGVGGPGHKARVL [SEQ ID
NO: 85]

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Fig.22.



DNA sequence of insert

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 CATCCCCCATCCGGCCGGCCTGAAGAAGAAGAAGAGCGTGACCGTGCTGGACGTGGGCGACGCTTACTTCA
 GCGTCCCTCTGGACGAGGACTTTAGAAAGTACACCGCCTTTACCATCCCATCTATCAACAACGAGACCCCT
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 ACGTGGGCTCTGACCTGGAAATCGGGCAGCATCGCACGAAGATTGAGGAGCTGAGGCAGCATCTGCTGAGA
 TGGGGCTGACCACTCCGGACAAGAAGCATCAGAAGGAGCCGCCATTCTGAAGATGGGCTACGAGCTCCA
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 CGAGTCCATCGTGATCTGGGGGAAGACACCCAAGTTCAAGCTGCCTATCCAGAAGGAGACCTGGGAGACGT
 GGTGGACCGAATATTGGCAGGCCACCTGGATTCCCGAGTGGGAGTTCTGTGAATACACCTCCTCTGGTGAAG
 CTGTGGTACCAGCTCGAGAAGGAGCCCATCGTGGGCGCGGAGACATTCTACGTGGACGGCGCGGCCAACCG
 CGAAACAAAGCTCGGGAAGGCCGGGTACGTACCAACCGGGGCCGAGAGGTCGTCACCTGACCGACA
 CCACCAACCAGAAGACGGAGCTGCAGGCCATCTATCTCGTCTCCAGGACTCCGGCCTGGAGGTGAACATC
 GTGACGGACAGCCAGTACGCGCTGGGCATTATTACAGGCCAGCCGGACCAGTCCGAGAGCGAAGTGGTGAA
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 GCGGCAACGAGCAGGTGACAAGCTGGTGAAGTGGGGGATTAGAAAGGTGCTGATGGTGGGTTTTCCAGTC
 ACACCTCAGGTACCTTTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTTAAAGAAAA
 GGGGGGACTGGAAGGGCTAATTAACCTCCCAAAGAAGACAAGATATCCTTGATCTGTGGATCTACCACACAC
 AAGGCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGGTGAGATATCCACTGACCTTTGGATGG
 TGCTACAAGCTAGTACCAAGTTGAGCCAGATAAGGTAGAAGAGGCCAATAAAGGAGAGAACACCAGCTTGT
 ACACCTGTGAGCCTGCATGGGATGGATGACCCGGAGAGAGAAGTGTAGAGTGGAGGTTTGACAGCCGCC

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Fig.22 (Cont I).

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 GCTCAAGCATATCGTGTGGGCCTCGAGGGAGCTTGAACGGTTTGCCGTGAACCCAGGCGTGTGGAAACAT
 CTGAGGGATGTCGCCAGATCCTGGGGCAATTGCAGCCATCCCTCCAGACCGGGAGTGAAGAGCTGAGGTCC
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 GGACAAAATTGAGGAGGAGCAAAACAAGAGCAAGAAGAAGGCCAGCAGGCAGCTGCTGACACTGGGCATA
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 CCGCCATGCAAATGTTGAAGGAGACTATCAACGAGGAGGCAGCCGAGTGGGACAGAGTGCATCCCGTCCAC
 GCTGGCCCAATCGCGCCCGGACAGATGCGGGAGCCTCGCGGCTCTGACATTGCCGGCACCACTCTACACT
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 GCCCGGCTGCCACCCTGGAAGAGATGATGACCGCCTGTGAGGGAGTAGGCGGACCCGGACACAAAGCCAGA
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 AACACCCGTAAGGGCATCCACATCGGGCCTGGACGGGCCTTCTATGCCGCCGCAAGATCATCGGCGACAT
 CCGGCAGGCCCATTCGAACCTCTCCCGCGCCAGTGAATAACACCCTGAAGCAGATCGTGATCAAGCTGA
 GAGAGCACTTTGGAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGGAGACCCCGAGATCGTGCGGCAC
 TCCTTCAACTGCGGGGGCGAGTTCTTCTACTGCGATACGACACAGCTCTTCAACTCCACCTGGAACGGCAC
 CGAGGGCAACAACAGAGAGGGAACCTCCACTATCACCTCCCTTGCCGCATCAAGCAGATCATCAACATGT
 GGCAGGAGGTGGGAAGGCCATGTATGCCCCCCCCATCGGGGGCCAGATCCGCTGCTCCTCCAACATCACC
 GGCCTGCTGCTCACCAGAGACGGGGCACCGAGGGCAACGGCACGGAGAACGAGACGGAGATCTTCAGGCC
 CGGCGGCGGCGACATGAGGGATAACTGGCGGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTGGAGCCGC
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Aminoacid sequence of insert

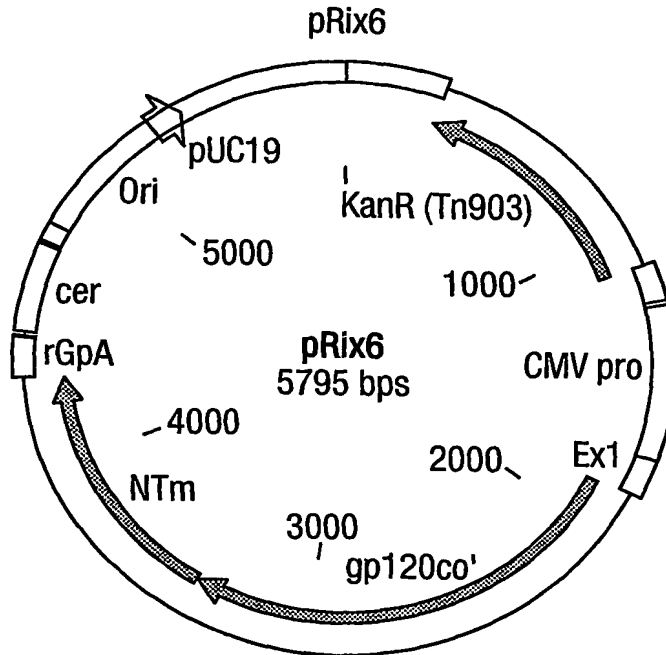
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 GIRYQYNVLPQGWKGSPAIFQSSMTKILEPFRKQNPDIYQYMDDLIVGSDLEIGQHRTKIEELRQHLLR
 WGLTTPDKKHQKEPFLKMGYELHPDKWTVQPIVLPEKDSWTVNDIQKLVGKLNWASQIYPGIKVRQLCKL
 LRGTALTEVIPLTEEALELAENREILKEPVHGVYDPSKDLIAEIQKQGQGWYQIYQEPFKNLKTGK
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Fig.22 (Cont II).

VLMAEQLWVTVYYGVPVWKEATTTLCASDAKAYDTEVHNVWATHACVPTDPNPQEVVLGNVTEYFNMWKN
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KVQKEYALFYNLDVVPIDDDNATTKNKTTRNFRLIHCNSSVMTQACPKVSFEPIPIHYCAPAGFAILKCNN
KTFDGKGLCTNVSTVQCTHGIRPVVSTQLLNGSLAEEEVVIRSDNFMONTKTIIVQLNESVAINCTRPNN
NTRKGIHIGPGRAFYAARKIIGDIRQAHCNLSRAQWNNTLKQIVIKLREHFGNKTIFNQSSGGDPEIVRH
SFNCGGEFFYCDTTQLFNSTWNGTEGNNTEGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNIT
GLLLTRDGGTEGNGTENETEIFRPGGGDMRDNWRSELYKYKVVKVEPLGVAPTRAKRRVVQR [SEQ ID
NO: 87]

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Fig.23.



DNA sequence of insert

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 CGACCACCTCTTCTGCGCGAGCGACGCCAAGGCCTACGACACGGAAGTGCATAACGTGTGGGCGACGCAT
 GCTTGCGTGCCTACGACCCCCAACCCCAAGGAGGTGGTGTCTGGGAAACGTGACCGAGTACTTCAACATGTG
 GAAGAATAACATGGTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAGTCCCTGAAGCCCTGCG
 TGAAGCTGACGCCTCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACC
 AGCAACGGCTGGACCGGAGAGATTTCGGAAGGGCGAGATCAAGAAGTGTCTTCAATATCACGACCTCGAT
 CAGAGACAAGGTGCAGAAGGAATACGCGCTGTTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATG
 CCACCACCAAGAACAAGACGACGCGTAATTTTCACTGCAACAGCAGCGTCATGACGACGAGGCC
 TGCCCCAAGGTGTCTTCGAACCAATCCCGATCCATTACTGTGCCCTGCCGATTTCGCGATCCTCAAGTG
 TAACAACAAGACCTTCGACGGGAAGGGCCTGTGCACCAACGTGACGACGGTGCAGTGCACCCATGGCATCC
 GCCCCGTCGTGAGCACCCAGCTGCTGTGAACGGGTCCCTGGCTGAGGAGGAGGTGGTGTATCCGGTCCGAC
 AACTTCATGGACAACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGCGATTAACTGTACCCGGCC
 TAACAACAACACCCGTAAGGGCATCCACATCGGGCCTGGACGGGCCTTCTATGCCGCCCGCAAGATCATCG
 GCGACATCCGGCAGGCCCCATTGCAACCTCTCCCGCGCCAGTGGAATAACACCCTGAAGCAGATCGTGATC
 AAGCTGAGAGAGCACTTTGGAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGGAGACCCCGAGATCGT
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 ACGGCACCGAGGGCAACAACACAGAGGGGAACTCCACTATCACCTCCCTTGCCGCATCAAGCAGATCATC
 AACATGTGGCAGGAGGTGGGAAAGGCCATGTATGCCCCCCCCATCGGGGGCCAGATCCGCTGCTCCTCCAA
 CATCACCGGCTGCTGCTCACCAGAGACGGGGGCACCGAGGGCAACGGCACGGAGAACGAGACGGAGATCT
 TCAGGCCCGGCGGCGGCGACATGAGGGATAACTGGCGGAGCGAGCTGTACAAGTACAAGTGGTGAAGGTG
 GAGCCGCTCGGCGTGGCCCCCACC CGGGCCAAGCGCCGCTCGTGCAGAGAATGGGTGGCAAGTGGTCAAA
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 GAGCAGCATCTCGAGACCTGGA AAAACATGGAGAGTACACAAGTAGCAATACAGCAGCTACCAATGCTGCT
 TGTGCCTGGCTAGAAGCACAAGAGGAGGAGGAGTGGGTTTTCCAGTCACACCTCAGGTACCTTTAAGACC
 AATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTTTAAAGAAAAGGGGGGACTGGAAGGGCTAATTC
 ACTCCAACGAAGACAAGATATCCTTGATCTGTGGATCTACCACACACAAGGCTACTTCCCTGATTGGCAG
 AACTACACACCAGGGCCAGGGGTGAGATATCCACTGACCTTTGGATGGTGTACAAGCTAGTACCAGTTGA
 GCCAGATAAGGTAGAAGAGGCCAATAAAGGAGAGAACACCAGCTTGTACACCCTGTGAGCCTGCATGGAA

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Fig.23 (Cont).

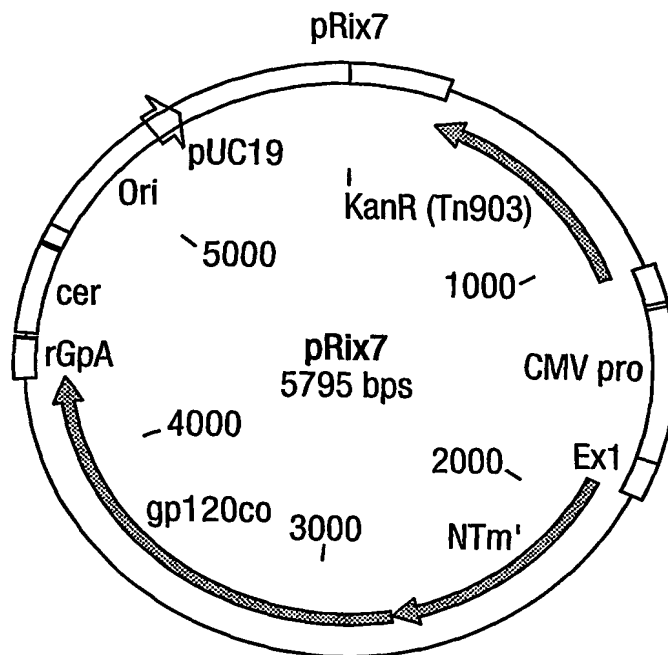
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GTTTCATAACAGCTGCCTTAGGCATCTCCTATGGCAGGAAGAAGCGGAGACAGCGACGAAGACCTCCTCAA
GGCAGTCAGACTCATCAAGTTTCTCTATCAAAGCAACCCACCTCCCAATCCAAAGGGGAGCCGACAGGCCC
GAAGGAATAA [SEQ ID NO: 88]

Aminoacid sequence of insert

MKVKETRKNYQHLWRWGTM L L G M L M I C S A A E Q L W V T V Y Y G V P V W K E A T T L F C A S D A K A Y D T E V H N V W A T H
A C V P T D P N P Q E V V L G N V T E Y F N M W K N N M V D Q M H E D I I S L W D Q S L K P C V K L T P L C V T L D C D D V N T T N S T T T T
S N G W T G E I R K G E I K N C S F N I T T S I R D K V Q K E Y A L F Y N L D V V P I D D D N A T T K N K T T R N F R L I H C N S S V M T Q A
C P K V S F E P I P I H Y C A P A G F A I L K C N N K T F D G K G L C T N V S T V Q C T H G I R P V V S T Q L L L N G S L A E E E V V I R S D
N F M D N T K T I I V Q L N E S V A I N C T R P N N N T R K G I H I G P G R A F Y A A R K I I G D I R Q A H C N L S R A Q W N N T L K Q I V I
K L R E H F G N K T I K F N Q S S G D P E I V R H S F N C G G E F F Y C D T T Q L F N S T W N G T E G N N T E G N S T I T L P C R I K Q I I
N M W Q E V G K A M Y A P P I G G Q I R C S S N I T G L L L T R D G G T E G N G T E N E T E I F R P G G G D M R D N W R S E L Y K Y K V V K V
E P L G V A P T R A K R R V V Q R M G G K W S K S S V V G W P T V R E R M R R A E P A A D G V G A A S R D L E K H G A I T S S N T A A T N A A
C A W L E A Q E E E E V G F P V T P Q V P L R P M T Y K A A V D L S H F L K E K G G L E G L I H S Q R R Q D I L D L W I Y H T Q G Y F P D W Q
N Y T P G P G V R Y P L T F G W C Y K L V P V E P D K V E E A N K G E N T S L L H P V S L H G M D D P E R E V L E W R F D S R L A F H H V A R
E L H P E Y F K N C T S E P V D P R L E P W K H P G S Q P K T A C T N C Y C K K C C F H C Q V C F I T A A L G I S Y G R K K R R Q R R R P P Q
G S Q T H Q V S L S K Q P T S Q S K G E P T G P K E [SEQ ID NO: 89]

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Fig.24.



DNA sequence of insert

ATGGGTGGCAAGTGGTCAAAAAGTAGTGTGGTTGGATGGCCTACTGTAAGGGAAAGAATGAGACGAGCTGA
 GCCAGCAGCAGATGGGGTGGGAGCAGCATCTCGAGACCTGGAAAAACATGGAGCAATCACAAGTAGCAATA
 CAGCAGCTACCAATGCTGCTTGTGCCTGGCTAGAAAGCACAAGAGGAGGAGGAGGTGGGTTTCCAGTCACA
 CCTCAGGTACCTTTAAGACCAATGACTTACAAGCAGCATGTAGATCTTAGCCACTTTTAAAAGAAAAGGG
 GGGACTGGAAGGGCTAATTCACTCCCAACGAAGACAAGATATCCTTGATCTGTGGATCTACCACACACAAG
 GCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGTCAGATATCCACTGACCTTTGGATGGTGC
 TACAAGCTAGTACCAGTTGAGCCAGATAAGGTAGAAGAGGCCAATAAAGGAGAGAAACACCAGCTTGTTACA
 CCCTGTGAGCCTGCATGGAATGGATGACCCTGAGAGAGAAGTGTAGAGTGGAGGTTTGACAGCCGCCTAG
 CATTTTCATCACGTGGCCCGAGAGCTGCATCCGGAGTACTTCAAGAACTGCAC'TAGTGAGCCAGTAGATCCT
 AGACTAGAGCCCTGGAAGCATCCAGGAAGTCAGCCTAAACTGCTTGTACCAATTGCTATTGTAAAAGTG
 TTGCTTTTCATTGCCAAGTTTGTTCATAACAGCTGCCTTAGGCATCTCCTATGGCAGGAAGAAGCGGAGAC
 AGCGACGAAGACCTCCTCAAGGCAGTCAGACTCATCAAGTTTCTCTATCAAAGCAACCCACCTCCCAATCC
 AAAGGGGAGCCGACAGGCCCCGAAGGAAATGAAGGTCAAGGAGACCAGAAAGAACTACCAGCATCTGTGGCG
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 ACGGCGTGCCTGTGTGGAAGGAGGCCACGACCACCTCTTCTGCGCGAGCGACGCCAAGGCCTACGACACG
 GAAGTGCATAACGTGTGGGCGACGCATGCTTGCGTGCCTACGGACCCCAACCCCGAGGAGGTGGTGTCTGGG
 AAACGTGACCGAGTACTTCAACATGTGGAAGAATAACATGGTGGATCAGATGCACGAGGACATCATCTCTC
 TGTGGGACCAGTCCCTGAAGCCCTGCGTGAAGCTGACGCTCTCTGCGTGACACTGGACTGTGACGACGTC
 AACACCACCAACAGCACTACCACCACCAGCAACGGCTGGACCGGAGAGATTCGGAAGGGCGAGATCAAGAA
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 ATGTGGTCCCCATCGACGACGACAATGCCACCACCAAGAACAAGACGACGCGTAATTTAGACTCATTAC
 TGCAACAGCAGCGTCATGACGAGGCTGCCCCAAGGTGTCTTCAACCAATCCCGATCCATTACTGTGC
 CCCTGCCGATTTCGCGATCCTCAAGTGTAAACAACAGACCTTCGACGGAAGGGCCTGTGCACCAACGTC
 GCACGGTGCAGTGCACCCATGGCATCCGCCCCGCTGAGCAGCCAGCTGCTGCTGAACGGGTCCCTGGCT
 GAGGAGGAGGTGGTGATCCGGTCGGACAACCTTCATGGACAACCAAGACAATCATCGTGACGCTGAACGA
 GTCTGTGGCGATTAACTGTACCCGGCCTAACAACAACACCCGTAAGGGCATCCACATCGGGCCTGGACGGG
 CCTTCTATGCCGCCCCGAAGATCATCGGCGACATCCGGCAGGCCCATTGCAACCTCTCCCGCGCCAGTGG
 AATAACACCCTGAAGCAGATCGTGATCAAGCTGAGAGAGCACTTTGGAAACAAGACCATCAAGTTCAATCA
 GAGTTCTGGCGGAGACCCGAGATCGTGCGGCACTCCTTCAACTGCGGGGCGAGTTCTTCTACTGCGATA
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Fig.24 (Cont).

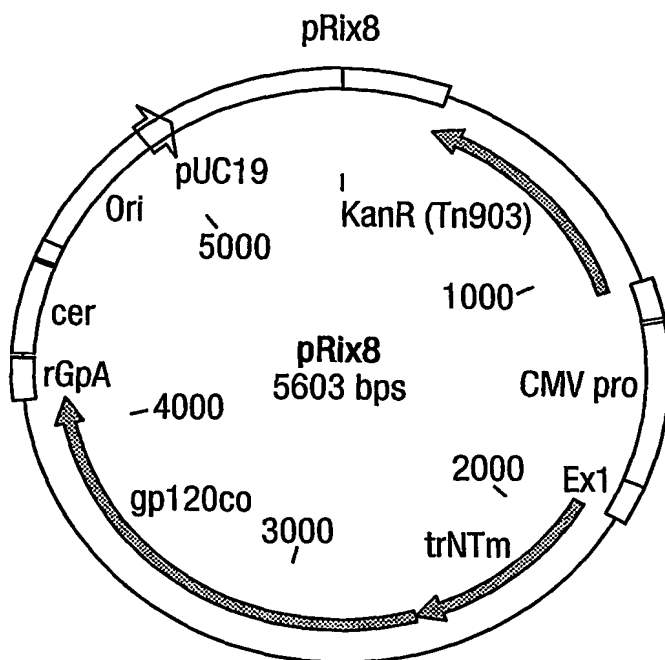
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CGGGGGCCAGATCCGCTGCTCCTCCAACATCACCGGCCTGCTGCTCACCAGAGACGGGGGCACCGAGGGCA
ACGGCACGGAGAACGAGACGGAGATCTTCAGGCCCCGGCGGCGGCGACATGAGGGATAACTGGCGGAGCGAG
CTGTACAAGTACAAGGTGGTGAAGGTGGAGCCGCTCGGCGTGGCCCCACCCGGGCCAAGCGCCGCGTCGT
GCAGAGATGA [SEQ ID NO: 90]

Aminoacid sequence of insert

MGGKWSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAITSSNTAATNAACAWLEAQEEEEVGFPVT
PQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDWYHTQGYFPDWQNYTPGPGVRYPLTFGWC
YKLVPEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNCTSEPVDP
RLEPWKHPGSQPKTACTNCYCKKCCFHCQVCFITAALGISYGRKKRRQRRRPPQGSQTHQVSLSKQPTSQS
KGEPTGPKEMKVKETRKNYQHLWRWGTMLLGLMLICSAAEQLWVTVYYGVPVWKEATTTLCASDAKAYDT
EVHNVWATHACVPTDPNPQEVVLGNVTEYFNMWKNNMVDQMHEDIISLWDQSLKPCVKLTPLCVTLDCDDV
NTTNSTTTTSSNGWTGEIRKGEIKNCSFNITTSIRDKVQKEYALFYNLDVVPIDDDNATTKNKTTRNFRLIH
CNSSVMTQACPKVSFEPIPIHYCAPAGFAILKCNNKTFDGKGLCTNVSTVQCTHGIRPVVSTQLLNGLA
EEEVVIRSDNFMNDTKTIIIVQLNESVAINCTRPNNNTRKGIHIGPGRFYAARKIIGDIRQAHCNLSRAQW
NNTLKQIVIKLREHFGNKTIFNQSSGGDPEIVRHSFNCGGEFFYCDTTQLFNSTWNGTEGNNTEGNSTIT
LPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGLLLTRDGGTEGNGTENETEIFRPGGGDMRDNRSE
LYKYKVVKVEPLGVAPTRAKRRVVQR [SEQ ID NO: 91]

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Fig.25.



DNA sequence of insert

ATGGTGGGTTTTCCAGTCACACCTCAGGTACCTTTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAG
 CCACTTTTTTAAAAGAAAAGGGGGGACTGGAAGGGCTAATTCCTCCCAACGAAGACAAGATATCCTTGATC
 TGTGGATCTACCACACACAAGGCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGGTCAGATAT
 CCACTGACCTTTGGATGGTGCTACAAGCTAGTACCAGTTGAGCCAGATAAGGTAGAAGAGGCCAATAAAGG
 AGAGAACACCAGCTTGTTACACCCTGTGAGCCTGCATGGAATGGATGACCCCTGAGAGAGAAGTGTTAGAGT
 GGAGGTTTGACAGCCGCTAGCATTTTCATCACGTGGCCGAGAGCTGCATCCGGAGTACTTCAAGAACTGC
 ACTAGTGAGCCAGTAGATCCTAGACTAGAGCCCTGGAAGCATCCAGGAAGTCAGCCTAAACTGCTTGTAC
 CAATTGCTATTGTAAAAAGTGTGCTTTCATTGCCAAGTTTGTTCATAACAGCTGCCTTAGGCATCTCCT
 ATGGCAGGAAGAAGCGGAGACAGCGACGAAGACCTCCTCAAGGCAGTCAGACTCATCAAGTTTCTCTATCA
 AAGCAACCCACCTCCCAATCCAAAGGGGAGCCGACAGGCCCGAAGGAAATGAAGGTCAAGGAGACCAAGAA
 GAACTACCAGCATCTGTGGCGCTGGGGCACCATGCTCCTGGGAATGCTGATGATCTGCTCCGCCGCCGAGC
 AGCTGTGGGTACCGTCTACTACGGCGTGCTGTGTGGAAGGAGGCCACGACCACCCTCTTCTGCGCGAGC
 GACGCCAAGGCCTACGACACGGAAGTGCATAACGTGTGGGCGACGCATGCTTGCGTGCCTACGGACCCCCAA
 CCCCCAGGAGGTGGTGCTGGGAAACGTGACCGAGTACTTCAACATGTGGAAGAATAACATGGTGGATCAGA
 TGCACGAGGACATCATCTCTGTGGGACCAGTCCCTGAAGCCCTGCGTGAAGCTGACGCCTCTCTGCGTG
 AACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACCAGCAACGGCTGGACCGGAGAGAT
 TCGGAAGGGCGAGATCAAGAACTGCTCCTTCAATATCACGACCTCGATCAGAGACAAGGTGCAGAAGGAAT
 ACGCGCTGTTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATGCCACCACCAAGAACAAGACGACG
 CGTAATTTCCAGACTCATTCCTGCAACAGCAGCGTCATGACGCAGGCCTGCCCAAGGTGTCCTTCGAACC
 AATCCCGATCCATTACTGTGCCCTGCCGGATTTCGCGATCCTCAAGTGTAACAACAAGACCTTCGACGGGA
 AGGGCCTGTGCACCAACGTCAGCACGGTGCAGTGCACCCATGGCATCCGCCCCGTCGTGAGCACCCAGCTG
 CTGCTGAACGGGTCCCTGGCTGAGGAGGAGGTGGTGATCCGGTCGGACAACCTTCATGGACAACACCAAGAC
 AATCATCGTCCAGCTGAACGAGTCTGTGGCGATTAACTGTACCCGGCCTAACAACAACACCCGTAAGGGCA
 TCCACATCGGGCCTGGACGGGCCTTCTATGCCGCCGCAAGATCATCGGCGACATCCGGCAGGCCCATTCG
 AACCTCTCCCGCGCCAGTGGAATAACACCCTGAAGCAGATCGTGATCAAGCTGAGAGAGCACTTTGGAAA
 CAAGACCATCAAGTTCAATCAGAGTTCTGGCGGAGACCCCGAGATCGTGCGGCACTCCTTCAACTGCGGGG
 GCGAGTTCTTCTACTGCGATACGACACAGCTCTTCAACTCCACCTGGAACGGCACCGAGGGCAACAACACA
 GAGGGAAACTCCACTATCACCCCTCCCTTGCCGCATCAAGCAGATCATCAACATGTGGCAGGAGGTGGGAAA
 GGCCATGTATGCCCCCCCCATCGGGGGCCAGATCCGCTGCTCCTCCAACATCACCGGCCTGCTGCTACCA
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Fig.25 (Cont).

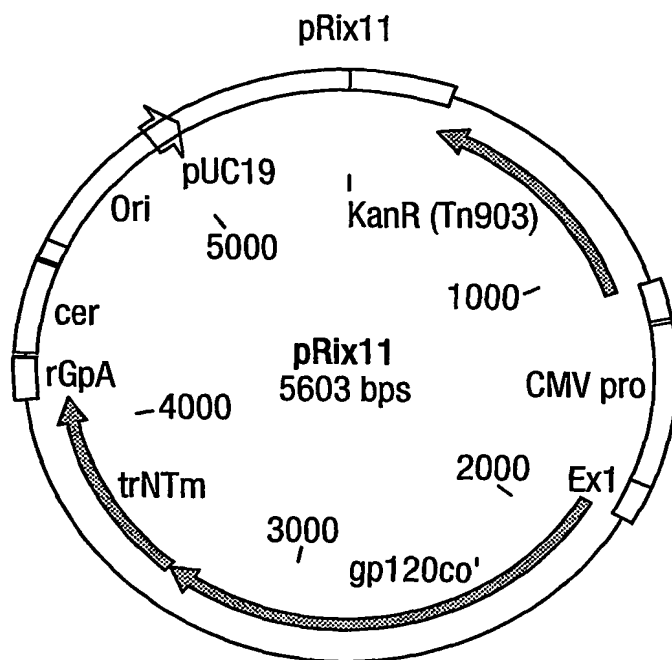
AGGGATAACTGGCGGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTGGAGCCGCTCGGCGTGGCCCCCAC
CCGGGCCAAGCGCCGCGTCGTGCAGAGATGA [SEQ ID NO: 92]

Aminoacid sequence of insert

MVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDLWIYHTQGYFPDWQNYTPGPGVRY
PLTFGWICYKLVPEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFD SRLAFHHVARELHPEYFKNC
TSEPVDPRLEPWKHPGSQPKTACTNCYCKKCCFHCQVCFITAALGISYGRKKRRQRRRPPQGSQTHQVSLS
KQPTSQSKGEPTGPKEMKVKETRKNYQHLWRWGTMLLGLMLICSAAEQLWVTVYYGVPVWKEATTLFCAS
DAKAYDTEVHNWATHACVPTDNPQEVVLGNVTEYFNMWKNNMVDQM HEDIISLWDQSLKPCVKLTPLCV
TLDCDDVNTTNSTTTTSN GWTGEIRKGEIKNCSENIITSIRDKVQKEYALFYNL DVVPIDDDNATTKNKT
RNFRLIHCNSSVMTQACPKVSFEPIPIHYCAPAGFAILKCNKTFDGKGLCTNVSTVQCTHGIRPVVSTQL
LLNGSLAE EEEVIRSDNFM DNTKTIIVQLNESVAINCTRPNNNTRKGIHIGPGRAFYAARKIIGDIRQAHC
NLSRAQWNNTLKQIVIKLREHFGNKTIFNQSSGGDPEIVRHSFNCGGEFFYCDTTQLFNSTWNGTEGNNT
EGNSTITLPCRIKQIINMWQEVGKAMYAPPIGGQIRCSSNITGLLLTRDGGTEGNGTENETEIFRPGGGDM
RDNWRSELYKYKVVKVEPLGVAPTRAKRRVVQR [SEQ ID NO: 93]

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Fig.26.



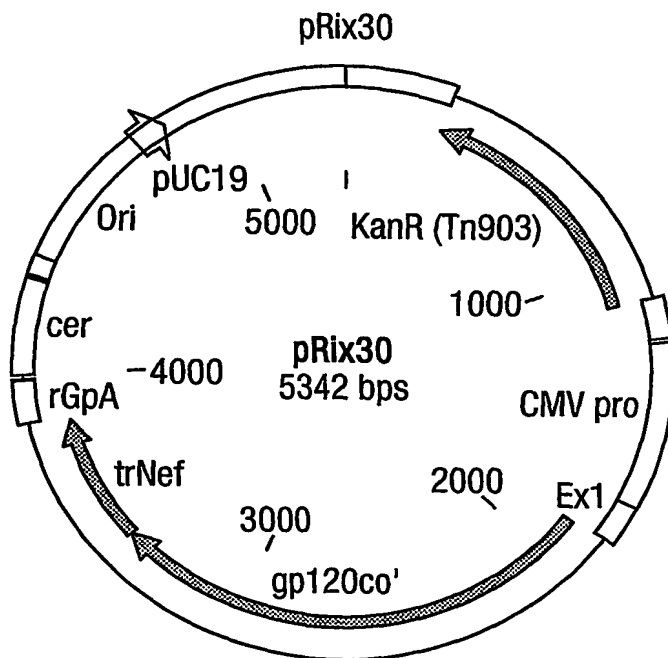
DNA sequence of insert

Aminoacid sequence of insert

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 ACVPTDPNPQEVVLGNVTEYFNMWKNNMVDQMHEDIISLWDQSLKPCVKLTPLCVTLDCDDVNTTNSTTTT
 SNGWTGEIRKGEIKNCSFNITTSIRDKVQKEYALFYNLDVVPIDDDNATTKNKTTRNFRLIHCNSSVMTQA
 CPKVSFEPIPIHYCAPAGFAILKCNNKTFDGKGLCTNVSTVQCTHGIRPVVSTQLLLNGSLAEEVVIRSD
 NFMDNTKTIIVQLNESVAINCTRPNNNTRKGIHIGPGRAFYAARKIIGDIRQAHCNLSRAQWNNTLKQIVI
 KLEHFGNKTIFKNQSSGGDPEIVRHSFNCGGEFFYCDTTQLFNSTWNGTEGNNTTEGNSTITLPCRIKQII
 NMWQEVGKAMYAPPIGGQIRCSSNITGLLLTRDGGTEGNGTENETEIFRPGGGDMRDNRSELYKYKVVKV
 EPLGVAPTRAKRRVVQRMVGFVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDWYHTQ
 GYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFD SRL
 AFHHVARELHPEYFKNCTSEPVDPRLPEPWKHPGSQPKTACTNCYCKKCCFHCQVCFITAALGISYGRKKRR
 QRRRPPQGSQTHQVSLSKQPTSQSKGEPTGPKE [SEQ ID NO: 94]

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Fig.27.



DNA sequence of insert

ATGAAGGTCAAGGAGACCAGAAAGAACTACCAGCATCTGTGGCGCTGGGGCACCATGCTCCTGGGAATGCT
 GATGATCTGCTCCGCCGCCGAGCAGCTGTGGGTACCGTCTACTACGGCGTGCCTGTGTGGAAGGAGGCCA
 CGACCACCTCTTCTGCGCGAGCGACGCCAAGGCCTACGACACGGAAGTGCATAACGTGTGGGCGACGCAT
 GCTTGCGTGCCTACGGACCCCAACCCCCAGGAGGTGGTGTCTGGGAAACGTGACCGAGTACTTCAACATGTG
 GAAGAATAACATGGTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAGTCCCTGAAGCCCTGCG
 TGAAGCTGACGCCTCTCTGCGTGACACTGGACTGTGACGACGTCAACACCACCAACAGCACTACCACCACC
 AGCAACGGCTGGACCGGAGAGATTTCGGAAGGGCGAGATCAAGAACTGCTCCTTCAATATCACGACCTCGAT
 CAGAGACAAGGTGCAGAAGGAATACGCGCTGTTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATG
 CCACCACCAAGAACAAGACGACGCGTAATTCAGACTCATTCACTGCAACAGCAGCGTCATGACGCAGGCC
 TGCCCCAAGGTGTCTTCGAACCAATCCCGATCCATTACTGTGCCCCCTGCCGGATTTCGCGATCCTCAAGTG
 TAACAACAAGACCTTCGACGGGAAGGGCCTGTGCACCAACGTCAGCACGGTGCAGTGCACCCATGGCATCC
 GCCCGTCTGTGAGCACCAGCTGCTGCTGAACGGGTCCCTGGCTGAGGAGGAGGTGGTGTATCCGGTCCGAC
 AACTTCATGGACAACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGCGATTAACTGTACCCGGCC
 TAACAACAACACCCGTAAGGGCATCCACATCGGGCCTGGACGGGCCTTCTATGCCGCCCCGAAGATCATCG
 GCGACATCCGGCAGGCCCATTGCAACCTCTCCCGCGCCAGTGGAAATAACACCCTGAAGCAGATCGTGATC
 AAGCTGAGAGAGCACTTTGGAAACAAGACCATCAAGTTCAATCAGAGTTCTGGCGGAGACCCCGAGATCGT
 GCGGCACTCCTTCAACTGCGGGGGCGAGTTCTTCTACTGCGATACGACACAGCTCTTCAACTCCACCTGGA
 ACGGCACCGAGGGCAACAACACAGAGGGAACTCCACTATCACCTCCCTTGCCGCATCAAGCAGATCATC
 AACATGTGGCAGGAGGTGGGAAAGGCCATGTATGCCCCCCCCATCGGGGGCCAGATCCGCTGCTCCTCCAA
 CATCACCGGCCCTGCTGCTCACCAGAGACGGGGGACCGAGGGCAACGGCACGGAGAACGAGACGGAGATCT
 TCAGGCCCCGGCGGGCGGACATGAGGGATAACTGGCGGAGCGAGCTGTACAAGTACAAGGTGGTGAAGGTG
 GAGCCGCTCGGCGTGGCCCCCACCAGGGCCAAGCGCCGCGTCTGTCAGAGAATGGTGGGTTTTCCAGTCAC
 ACCTCAGGTACCTTTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTTTAAAGAAAAGG
 GGGGACTGGAAGGGCTAATTCATCCCAACGAAGACAAGATATCCTTGATCTGTGGATCTACCACACACAA
 GGCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGGTGAGATATCCACTGACCTTTGGATGGTG
 CTACAAGCTAGTACCAGTTGAGCCAGATAAGGTAGAAGAGGCCAATAAAGGAGAGAACACCAGCTTGTTAC
 ACCCTGTGAGCCTGCATGGAATGGATGACCCTGAGAGAGAAGTGTTAGAGTGGAGGTTTGACAGCCGCTA
 GCATTTTCATCACGTGGCCCGAGAGCTGCATCCGGAGTACTTCAAGAACTGCTAA [SEQ ID NO: 95]

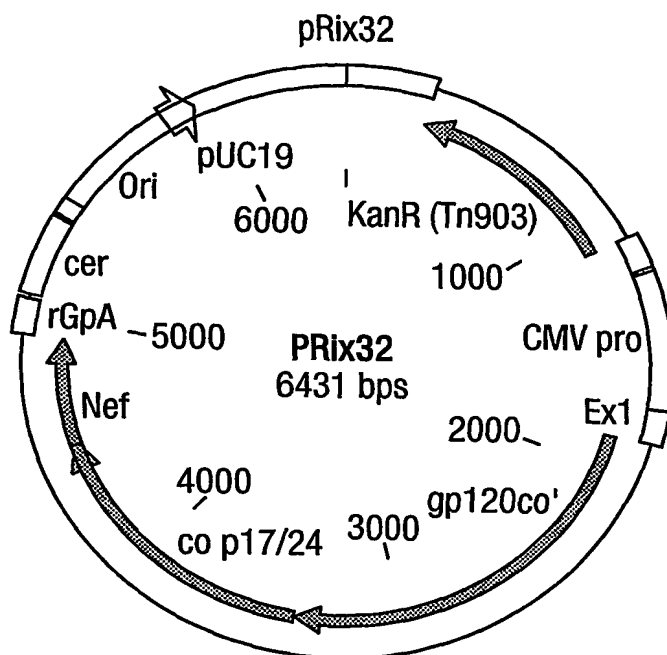
Fig.27 (Cont).

Aminoacid sequence of insert

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SNGWTGEIRKGEIKNCSFNITTSIRDKVQKEYALFYNLDVVPIDDDNATTKNKTRNFRLIHCNSSVMTQA
CPKVSFEPIPIHYCAPAGFAILKCNNKTFDGKGLCTNVSTVQCTHGIRPVVSTQLLNGSLAEEEVVIRSD
NFM DNTKTIIIVQLNESVAINCTRPNNNTRKGIHIGPGRFYAARKIIGDIRQAHCNLSRAQWNNTLKQIVI
KLREHFGNKTIKFNQSSGGDPEIVRHSFNCGGEFFYCDTTQLFNSTWNGTEGNTEGNSTITLPCRIKQII
NMWQEVGKAMYAPPIGGQIRCSSNITGLLLTRDGGTEGNTEGNTEI FRPGGGDMRDNRSELYKYKVKV
EPLGVAPTRAKRRVVQRMVGFVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDWYHTQ
GYFPDWQNYTPGPGVRYPLTFGW CYKLVPEPDKVEEANKGENTSLLHPVSLHGMDDPEREVLEWRFD SRL
AFHHVARELHPEYFKNC [SEQ ID NO: 96]

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Fig.28.



DNA sequence of insert

ATGAAGGTCAAGGAGACCAGAAAGAACTACCAGCATCTGTGGCGCTGGGGCACCATGCTCCTGGGAATGCT
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 CGACCACCCTCTTCTGCGCGAGCGACGCCAAGGCCTACGACACGGAAGTGCATAACGTGTGGGCGACGCAT
 GCTTGGCGTGCCCTACGGACCCCAACCCCCAGGAGGTGGTGTGGGAAACGTGACCGAGTACTTCAACATGTG
 GAAGAATAACATGGTGGATCAGATGCACGAGGACATCATCTCTGTGGGACCAGTCCCTGAAGCCCTGCG
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 AGCAACGGCTGGACCGGAGAGATTTCGGAAGGGCGAGATCAAGAACTGCTCCTTCAATATCACGACCTCGAT
 CAGAGACAAGGTGCAGAAGGAATACGCGCTGTTTTATAATCTCGATGTGGTCCCCATCGACGACGACAATG
 CCACCACCAAGAACAAGACGACGCGTAATTTAGACTCATTCACTGCAACAGCAGCGTCATGACGAGGCC
 TGCCCCAAGGTGTCCTTCGAACCAATCCCGATCCATTACTGTGCCCTGCCGATTCCGCGATCCTCAAGTG
 TAACAACAAGACCTTCGACGGGAAGGGCCTGTGCACCAACGTGACGACGGTGCAGTGCACCCATGGCATCC
 GCCCCGTCGTGAGCACCAGCTGCTGCTGAACGGGTCCCTGGCTGAGGAGGAGGTGGTGTATCCGGTCCGAC
 AACTTCATGGACAACACCAAGACAATCATCGTCCAGCTGAACGAGTCTGTGGCGATTAAGTGTACCCGGCC
 TAACAACAACACCCGTAAGGGCATCCACATCGGGCCTGGACGGGCCTTCTATGCCGCCCGCAAGATCATCG
 GCGACATCCGGCAGGCCCATTGCAACCTCTCCGCGCCAGTGGAATAACACCCTGAAGCAGATCGTGATC
 AAGCTGAGAGAGCACTTTGGAAACAAGACCATCAAGTCAATCAGAGTCTTGGCGGAGACCCCGAGATCGT
 GCGGCACTCCTTCAACTGCGGGGCGAGTTCTTCTACTGCGATACGACACAGCTCTTCAACTCCACCTGGA
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 CATCACCGGCCTGCTGCTCACCAGAGACGGGGGACCGGAGGGCAACGGCACGGGAGAACGAGACGGAGATCT
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 GAGCCGCTCGGCGTGGCCCCCACCAGGGCCAAGCGCCGCTCGTGCAGAGAATGGGTGCCCGAGCTTCGGT
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 GTATAACACAGTGGCTACCTCTACTGCGTACACCAGAGGATCGAGATTAAGGATACCAAGGAGGCCTTGG
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 AACCAGGTATCACAGAACTATCCTATTGTCCAAAACATTACGGGCCAGATGGTTTCATCAGGCCATCAGCCC
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Fig.28 (Cont).

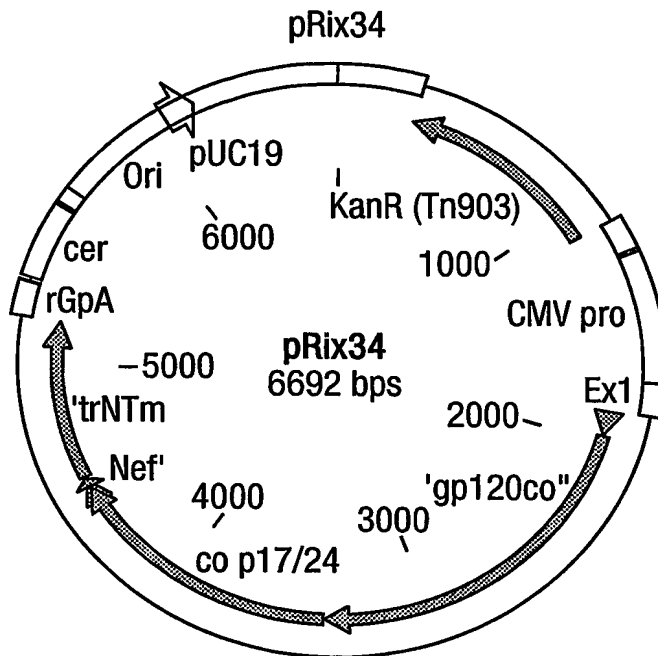
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 AAGAGCAAATCGGATGGATGACCAACAATCCTCCCATCCCAGTTGGAGAAATCTATAAACGGTGGATCATT
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 GCCTTTTAGGGATTACGTGACCGGTTTTATAAGACCCCTGCGAGCAGAGCAGGCCTCTCAGGAGGTCAAAA
 ACTGGATGACGGAGACACTCCTGGTACAGAACGCTAACCCCGACTGCAAAACAATCTTGAAGGCCTAGGC
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 ATATCCACTGACCTTTGGATGGTGTCTACAAGCTAGTACCAGTTGAGCCAGATAAGGTAGAAGAGGCCAATA
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 CTGCTGA [SEQ ID NO: 97]

Aminoacid sequence of insert

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 SNGWTGEIRKGEIKNCSFNITTSIRDKVQKEYALFYNLDVVPIDDDNATTKNKTTRNFRLIHCNSSVMTQA
 CPKVSFEPIPIHYCAPAGFAILKCNNKTFDGKGLCTNVSTVQCTHGIRPVVSTQLLNGSLAEEEVVIRSD
 NFMNTKTIIVQLNESVAINCTRPNNNTRKGIHIGPGRFYAARKIIGDIRQAHCNLSRAQWNNTLKQIVI
 KLREHFGNKTIKFNQSSGGDPEIVRHSFNCGGEFFYCDTTQLFNSTWNGTEGNNTGNSTITLPCRIKQII
 NMWQEVGKAMYAPPIGGQIRCSSNITGLLLTRDGGTEGNNGTENETEIFRPGGDMRDNRSELYKYKVVKV
 EPLGVAPTRAKRRVQRMGARASVLSGGELDRWEKIRLRPGGKKKYKLKHIVWASRELERFAVNPGLLETS
 EGCRQILGQLQPSLTGSEELRSLYNTVATLYCVHQRIEIKDTKEALDKIEEQNKSKKKAQQAADTGHS
 NQVSQNYPIVQNIQGQMVHQAI SPRTLNAWVKVVEEKAFSPEVPMFSALSEGATPQDLNTMLNTVGGHQA
 AMQMLKETINEEAAEWDRVHPVHAGPIAPGQMREPRGSDIAGTTSTLQEQIGWMTNNPPIPVGEIYKRWII
 LGLNKIVRMYSPTSILDIRQGPKEPFRDYVDRFYKTLRAEQASQEVKNWMTETLLVQNANPDCKTILKALG
 PAATLEEMMTACQGVGGPGHKARVLMVGFVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSORRODIL
 DLWIYHTQGYFPDQWNYTPGPGVRYPLTFGWCYKLVPEPDKVEEANKGENTSLHPVSLHGMDDPEREVL
 EWRFD SRLAFHHVARELHPEYFKNC [SEQ ID NO: 98]

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Fig.29.



DNA sequence of insert

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Fig.29 (Cont).

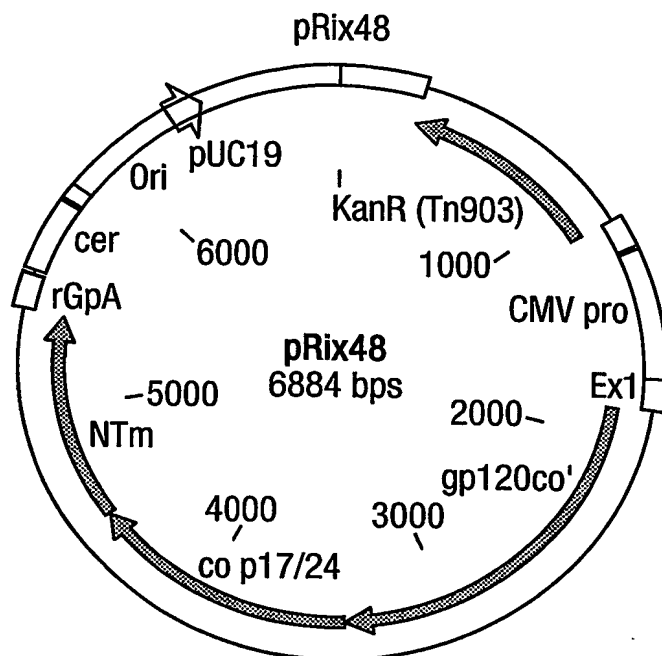
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Aminoacid sequence of insert

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 SNGWTGEIRKGEIKNCSFNITTSIRDKVQKEYALFYNLDVVPIDDDNATTKNKTTRNFRLIHCNSSVMTQA
 CPKVSFEPIPIHYCAPAGFAILKCNNKTFDGKGLCTNVSTVQCTHGIRPVVSTQLLNGSLAEDEVIRSD
 NEMDN TKTIIVQLNESVAINCTRPNNNTRKGIHIGPGRAFYAARKIIGDIRQAHCNLSRAQWNNTLQKQIV
 KLREHFGNKTIFNQSSGGDPEIVRHSFNCGGEFFYCDTTQLFNSTWNGTEGNNTGNSTITLPCRIKQII
 NMWQEVGKAMYAPPIGGQIRCSSNITGLLLTRDGGTEGNGTENETEIFRPGGGDMRDNRSELYKYKVVKV
 EPLGVAPTRAKRRVQRMGARASVLSGGELDRWEKIRLRPGGKKYKLKHIVWASRELERFAVNPGLLETS
 EGCRQILGQLQPSLQTGSEELRSYNTVATLYCVHQRIEIKDTKEALDKIEEQNKSKKKAQQAADTGHS
 NQVSQNYPIVQNIQGMVHQAI SPRTLNAWVKVVEEKAFSPEVIMFSALSEGATPQDLNTMLNTVGGHQA
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 LGLNKIVRMYSPTSILDIRQGPKEPFRDYVDRFYKTLRAEQASQEVKNWMTETLLVQANANPDCKTILKALG
 PAATLEEMMTACQGVGGPGHKARVLMVGFVPTQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDIL
 DLWIIYHTQGYFPDWQNYTPGPGVRYPLTFGWCYKLVPVEPDKVEEANKGENTSLHPVSLHGMDDPEREVL
 EWRFD SRLAFHHVARELHPEYFKNCTSEPVDPRLEPWKHPGSQPKTACTNCYCKKCCFHCQVCFITAALGI
 SYGRKKRRQRRRPPQGSQTHQVSLSKQPTSQSKGEPTGPKE [SEQ ID NO: 100]

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Fig.30.



DNA sequence of insert

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Fig.30 (Cont).

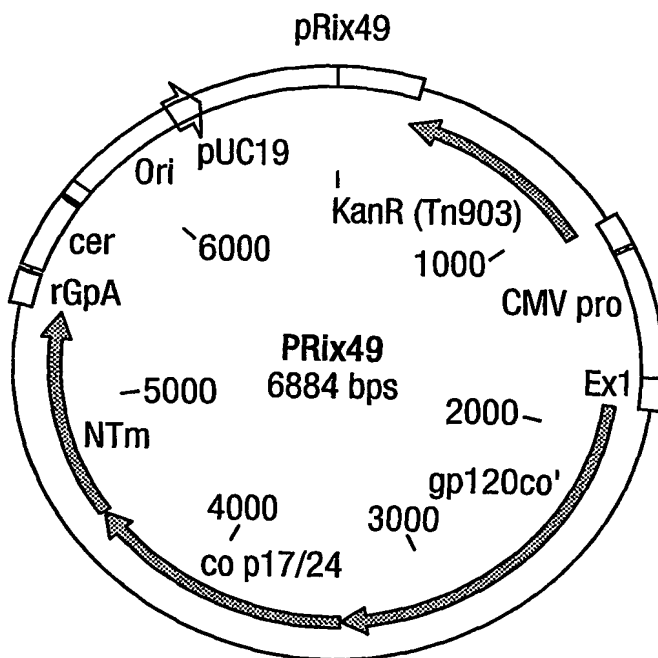
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ATCCAAAGGGGAGCCGACAGGCCCCGAAGGAATAA [SEQ ID NO: 101]

Aminoacid sequence of insert

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SNGWTGEIRKGEIKNCSFNITTSIRDKVQKEYALFYNLDVVPIDDDNATTKNKTTRNFRLIHCNSSVMTQA
CPKVSFEPIPIHYCAPAGFAILKCNKTFDGGKGLCTNVSTVQCTHGIRPVVSTQLLLNGSLAEVEVIRSD
NFMDNTKTIIVQLNESVAINCTRPNNNTRKGIHIGPGRFYAARKIIGDIRQAHCNLSRAQWNNTLQIIVI
KLREHFGNKTIKFNQSSGGDPEIVRHSFNCGGEFFYCDTTQLFNSTWNGTEGNNTGNSTITLPCRIKQII
NMWQEVGKAMYAPPIGGQIRCSSNITGLLLTRDGGTEGNNGTENETEIFRPGGDMRDNRSELYKYKVVKV
EPLGVAPTRAKRRVVQRMGARASVLSGELDRWEKIRLRPGGKKKYKLKHIVWASRELERFAVNPGLLET
EGCRQILGQLQPSLQTGSEELRSLYNTVATLYCVHQRIEIKDTKEALDKIEEQNKSKKKAQQAADTGHS
NQVSQNYPIVQNIQGMVHQAISPRTLNAWVKVVEEKAFSPEVIMFSALEGATPDLDNTMLNTVGGHQA
AMQMLKETINEEAAEWDRVHPVHAGPIAPGQMREPRGSDIAGTTSTLQEQIGWMTNNPPIPVGEIYKRWII
LGLNKIVRMYSPSILDIRQGPKEPFRDYVDRFYKTLRAEQASQEVKNWMTETLLVQANANPDCKTILKALG
PAATLEEMMTACQGVGGPGHKARVLMGGKWSKSSVVGWPTVRERMRAEPAADGVGAASRDLEKHGAISS
NTAATNAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDWIYHT
QGYFPDWQNYTPGPGVRYPLTFGWICYKLVPEPDKVEEANKGENTSLHPVSLHGMDPEREVLEWRFDSR
LAFHHVARELHPEYFKNCTSEPVDPRLPEWKHPGSQPKTACTNCYCKKCCFHCQVCFITAALGISYGRKKR
RQRRRPPQGSQTHQVSLSKQPTSQSKGEPTGPKE [SEQ ID NO: 102]

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Fig.31.



DNA sequence of insert

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 TGCCCCAAGGTGTCTTCGAACCAATCCCGATCCATTACTGTGCCCCTGCCGGATTTCGCGATCCTCAAGTG
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Fig.31 (Cont).

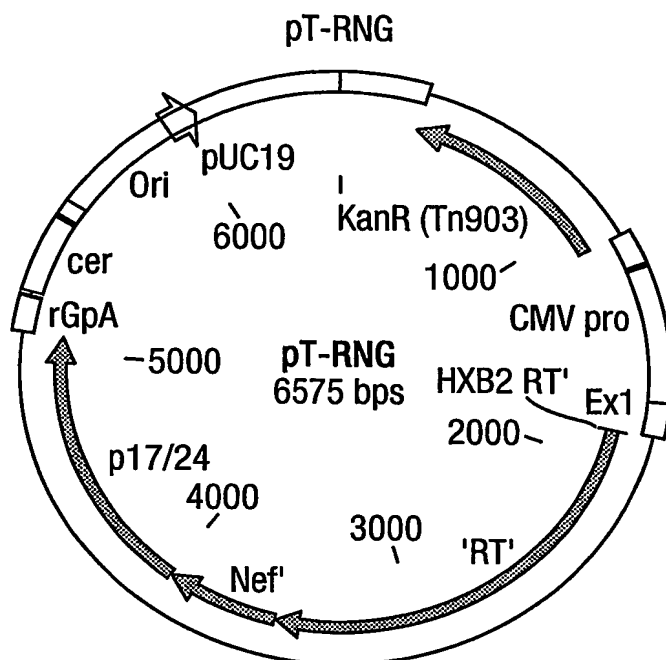
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TACACCCTGTGAGCCTGCATGGAATGGATGACCCTGAGAGAGAAGTGTAGAGTGGAGGTTTGACAGCCGC
CTAGCATTTTCATCACGTGGCCGAGAGCTGCATCCGGAGTACTTCAAGAACTGCACTAGTGAGCCAGTAGA
TCCTAGACTAGAGCCCTGGAAGCATCCAGGAAGTCAGCCTAAACTGCTGTGACCAATTGCTATTGTAAAA
AGTGTGCTTTTCATTGCCAAGTTTGTTCATAACAGCTGCCTTAGGCATCTCCTATGGCAGGAAGAAGCGG
AGACAGCGACGAAGACCTCCTCAAGGCAGTCAGACTCATCAAGTTTCTCTATCAAAGCAACCCACCTCCCA
ATCCAAAGGGGAGCCGACAGGCCCCGAAGGAATAA [SEQ ID NO: 103]

Aminoacid sequence of insert

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SNGWTGEIRKGEIKNCSFNITTSIRDKVQKEYALFYNLDVVPIDDDNATTKNKTTRNFRLIHCNSSVMTQA
CPKVSFEPIPIHYCAPAGFAILKCNKTFDGKGLCTNVSTVQCTHGIRPVVSTQLLNGLSLAEVIRSD
NFMNDTKTIIVQLNESVAINCTRPNNNTRKGIHIGPGRFYAARKIIGDIRQAHCNLSRAQWNNTLQKQIVI
KLREHFGNKTIFKNQSSGGDPEIVRHSFNCGEFFYCDTTQLFNSTWNGTEGNTEGNSTITLPCRIKQII
NMWQEVGKAMYAPPIGGQIRCSSNITGLLLTRDGGTEGNGTENETEIFRPGGDMRDNRSELYKYKVVKV
EPLGVAPTRAKRRVQRMGARASVLSGGELDRWEKIRLRPGGKKYKLKHIVWASRELERFAVNPGLLET
EGCRQILGQLQPSLQTGSEELRSLYNTVATLYCVHQRIEIKDTKEALDKIEEQNKSKKKAQQAADTGH
NQVSQNYPIVQNIQGMVHQAI SPRTLNAAWKVVEEKAFSPEVIMFSALEGATPQDLNTMLNTVGGHQA
AMQMLKETINEEAAEWDRVHPVHAGPIAPGQMREPRGSDIAGTTSTLQEQIGWMTNNPPIPVGEIYKRWII
LGLNKIVRMYSPTSILDIRQGPKEPFRDYVDRFYKTLRAEQASQEVKNWMTETLLVQANANPDCKTILKALG
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NTAATNAACAWLEAQEEEEVGFPVTPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDWYHT
QGYFPDWQNYTPGPGVRYPLTFGWCYKLPVPEPKVEEANKGENTSALHPVSLHGMDDPEREVLEWRFRDSR
LAFHHVARELHPEYFKNCTSEPVDPRLEPWKHPGSQPKTACTNCYCKKCCFHCQVCFITAAALGISYGRKKR
RQRRRPPQGSQTHQVSLSKQPTSQSKGEPTGPKE [SEQ ID NO: 104]

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Fig.32.



DNA sequence of insert:

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CATCCCCCATCCGGCCGGCCTGAAGAAGAAGAAGAGCGTGACCGTGCTGGACGTGGGCGACGCTTACTTCA
GCGTCCCTCTGGACGAGGACTTTAGAAAGTACACCGCCTTACCATCCCATCTATCAACAACGAGACCCCT
GGCATCAGATATCAGTACAACGTCTCCCCAGGGCTGGAAGGGCTCTCCCGCCATTTTCCAGAGCTCCAT
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CCAGATTATCGAGCAGCTGATCAAGAAAGAGAAGGTCTACCTCGCCTGGGTCCCGGCCATAAGGGCATTG
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ACACCTCAGGTACCTTTAAGACCAATGACTTACAAGGCAGCTGTAGATCTTAGCCACTTTTTTAAAGAAAA
GGGGGGACTGGAAGGGCTAATTCATCCCAAGAAGACAAGATATCCTTGATCTGTGGATCTACCACACAC
AAGGCTACTTCCCTGATTGGCAGAACTACACACCAGGGCCAGGGGTGAGATATCCACTGACCTTTGGATGG
TGCTACAAGCTAGTACCAGTTGAGCCAGATAAGGTAGAAGAGGCCAATAAAGGAGAGAACACCAGCTTGT

```

Fig.32 (Cont).

ACACCCTGTGAGCCTGCATGGGATGGATGACCCGGAGAGAGAAAGTGTAGAGTGGAGGTTTGACAGCCGCC
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GCTCAAGCATATCGTGTGGGCCTCGAGGGAGCTTGAACGGTTTGCCGTGAACCCAGGCCTGCTGGAAACAT
CTGAGGGATGTCGCCAGATCCTGGGGCAATTGCAGCCATCCCTCCAGACCGGGAGTGAAGAGCTGAGGTCC
TTGTATAACACAGTGGCTACCCTCTACTGCGTACACCAGAGGATCGAGATTAAGGATACCAAGGAGGCCTT
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GCAACCAGGTATCACAGAACTATCCTATTGTCCAAAACATTACAGGGCCAGATGGTTCATCAGGCCATCAGC
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CCGCCATGCAATGTTGAAGGAGACTATCAACGAGGAGGCAGCCGAGTGGGACAGAGTGCATCCCGTCCAC
GCTGGCCCAATCGCGCCCGGACAGATGCGGGAGCCTCGCGGCTCTGACATTGCCGGCACCACCTCTACACT
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TCCTGGGCCTGAACAAGATCGTGCATGTACTCTCCGACATCCATCCTTGACATTAGACAGGGACCCAAA
GAGCCTTTTAGGGATTACGTGACCGGTTTTATAAGACCCTGCGAGCAGAGCAGGCCTCTCAGGAGGTCAA
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GTGTTGTAA [SEQ ID NO: 88]

Amino acid sequence of insert:

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WGLTTPDKKHQKEPPFLKMGYELHPDKWTVPVLPKDSWTVNDIQKLVGKLNWASQIYPGIKVRQLCKL
LRGTKALTEVIPLTEEALELAENREILKEPVHGVYDPSKDLIAEIQKQGQGWYQIYQEPFKNLKTGK
YARMRGAHTNDVKQLTEAVQKITTESIVIWGKTPKFKLPIQKETWETWWTEYWQATWIPWEFVNTPLVK
LWYQLEKEPIVGAETFYVDGAANRETKLGKAGYVTNRGRQKVVTLDTTNQKTELQAIYALQDSGLEVNI
VTDSQYALGIIQAQPDQSESELVNQIIIEQLIKKEKVYLAWVPAHKGIGGNEQVDKLVSAGIRKVLVGVFPV
TPQVPLRPMTYKAAVDLSHFLKEKGGLEGLIHSQRRQDILDWYHTQGYFPDWQNYTPGPGVRYPLTFGW
CYKLVPVEPKVEEANKGENTSLHPVSLHGMDPEREVLEWRFD SRLAFHHVARELHPEYFKNCMGARAS
VLSGELDRWEKIRLRPGGKKKYKLKHIVWASRELERFAVNPGLEETSEGCRQILGQLQPSLOTGSEELRS
LYNTVATLYCVHQRIEIKDTKEALDKIEEEQNKS KKAQQAADTGH SNQVSQNYPIVQNIQGQMVHQ AIS
PRTLNAWVKVVEEKAFSP EVIPMFSA LSEGATPQDLN TMLNTVGGHQAAMQMLKETINEEAAEWD RVHPVH
AGPIAPGQMRPRGSDIAGTTSTLQE QIGWMTN NPPIPVGEIYKRW IILGLNKIVRMYSPTS ILDIRQGPK
EPFRDYVDRFYKTLRAEQASQEVKNWMTETLLVQ N ANPDCKTILKALGPAATLEEMMTACQGVGGPGHKAR
VL [SEQ ID NO: 89]

Fig. 33.



Fig.34.

A Schematic representation of further constructs

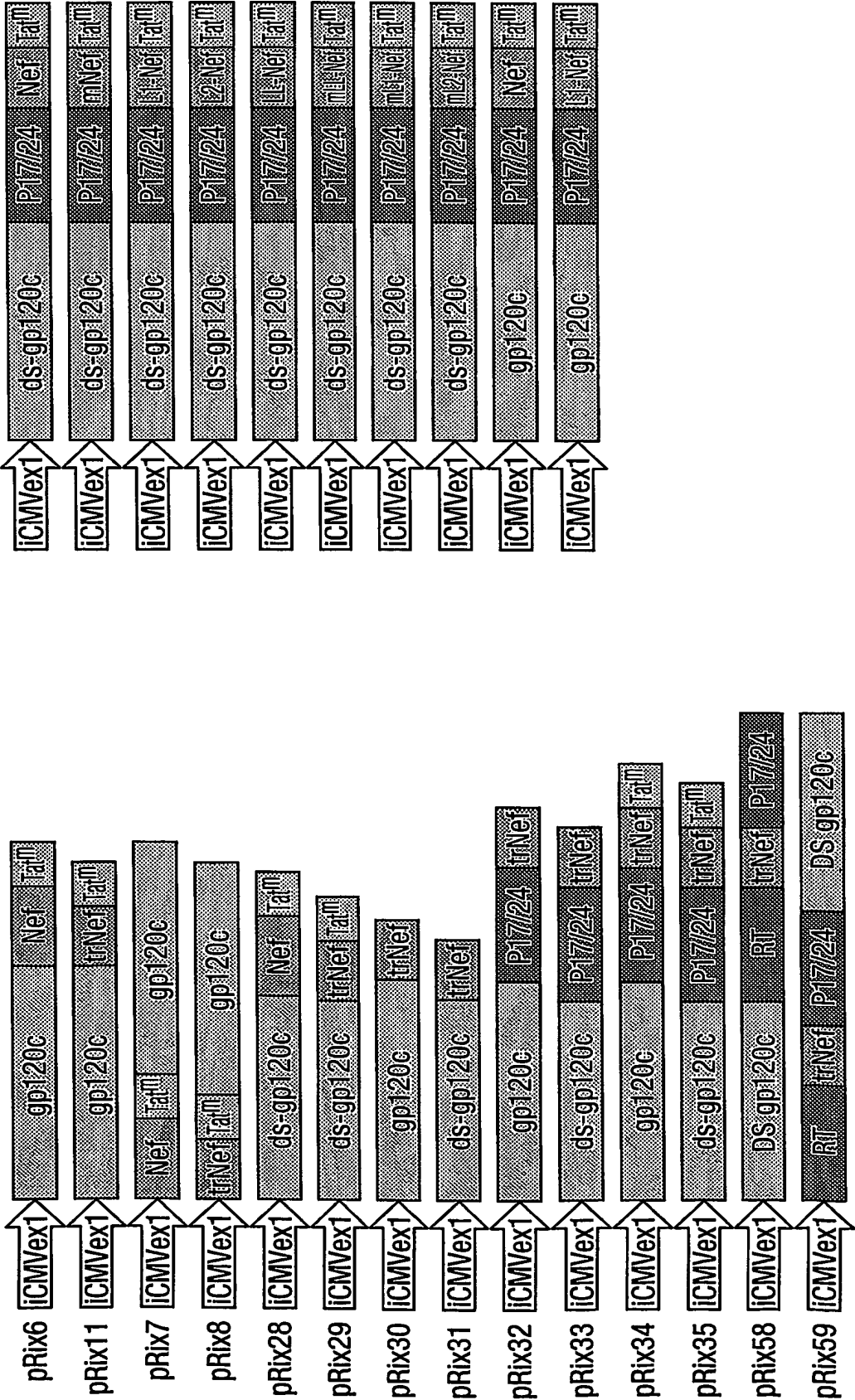
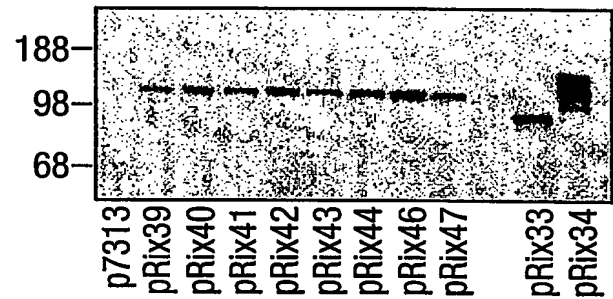
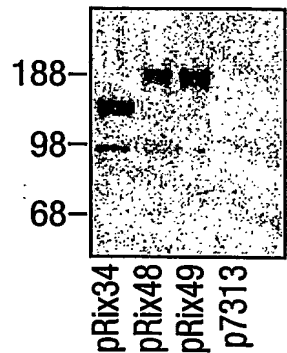


Fig.35.

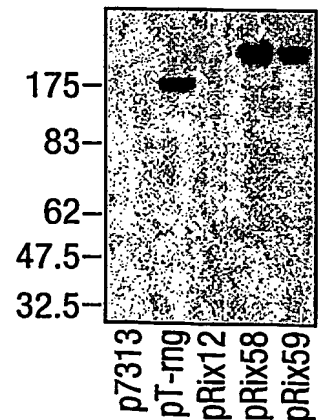
Expression data (anti-Nef) for dsgrp120/Gag/Nef/Tat fusions with mutations in Nef (pRix40-47)



Expression data (anti-Nef) for dsgrp120/Gag/Nef/Tat fusions with glycosylated gp120 (pRix48 and pRix49)



Expression data (anti-Nef) for the quadrivalent fusion proteins containing RT, Nef, Gag and dsgrp120, compared to expression of the RT,Nef,Gag fusion alone



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Fig.36.

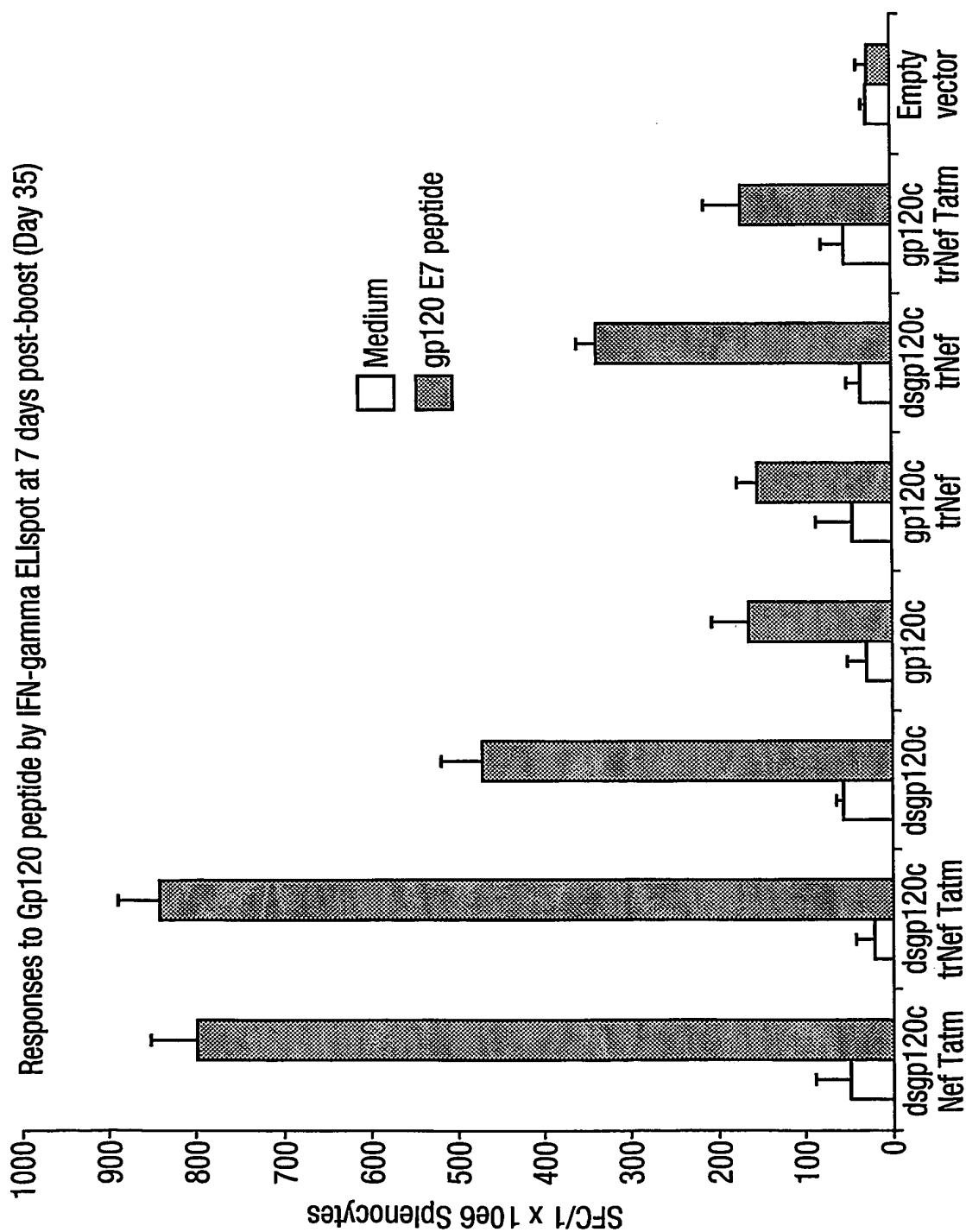


Fig.37.

Responses to gp120 peptide by IFN-gamma ELISpot at 7 days-boost (Day 35)

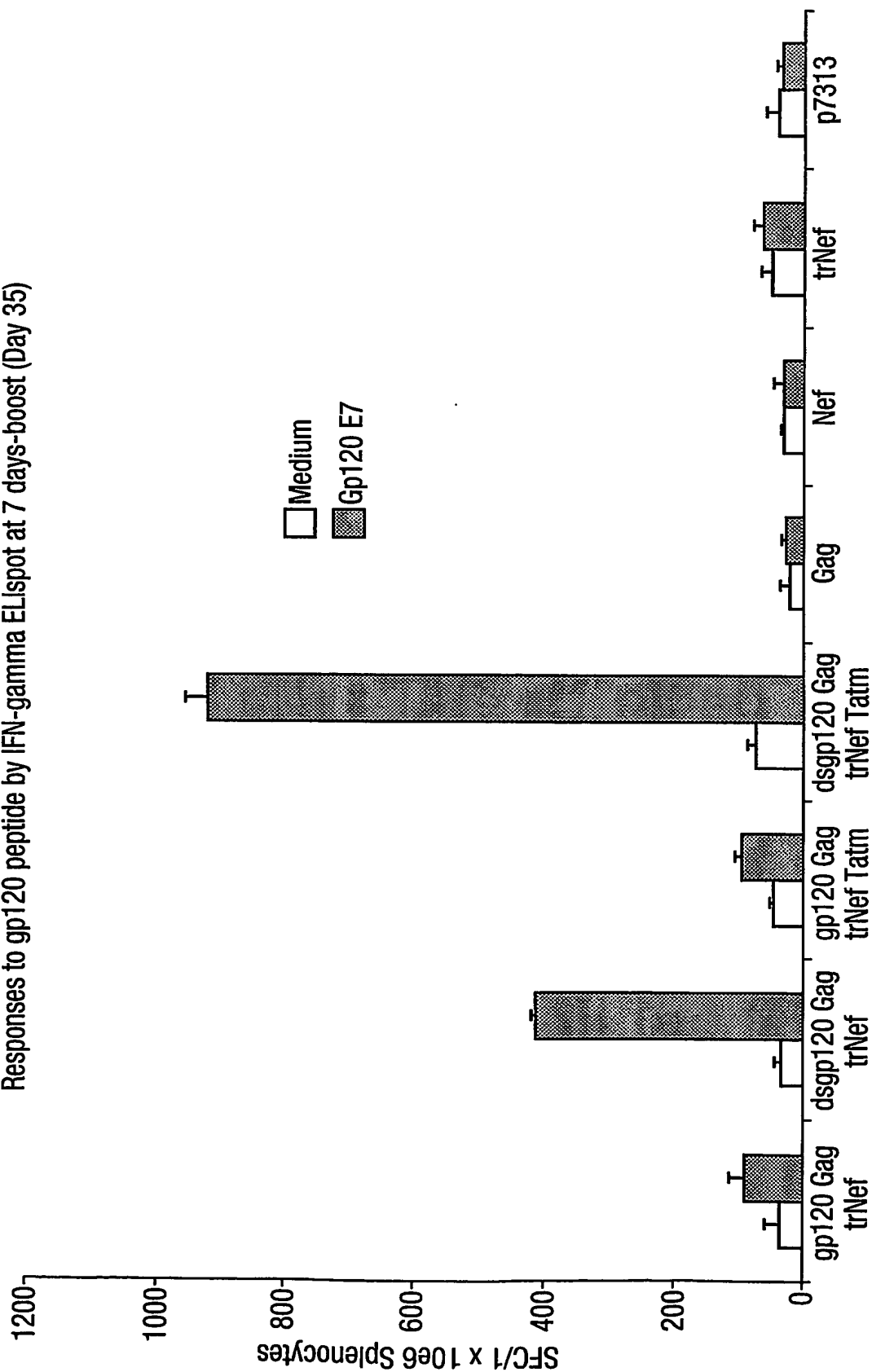


Fig.38.

Response to in vitro restimulation with Gp120, Gag and RT peptides at 7 days post-boost (Day 35) using IFN-gamma ELISPOT

